

Name of the Student: TTbQLL BQSUL Knan	· 12 War Fr Sile
Name of the Student: Hodul Basith Khan Class CSE (AIML) Semester T	7.1
Course Code: A.E.E.D.O.I	23951A6601
Name of the Course Faculty Dx L. Rajashekhar you	Faculty ID : TARE 1106
Exercise Number: Week Number: Week Number:	
DAY TO DAY EVALUATION:	
Aim / Algorithm / Procedure Source Co	ode Program Execution Viva -

Marks	Aim /	Algorithm / Procedure	Source Code	Program Execution	Viva -	\
	Preparation	Performance in the Lab	Calculations and Graphs	Results and Error Analysis	Voce	Total
Max. Marks	4	4	4	4	4	20
Obtained	4	4	4	3	4	19

Signature of Faculty

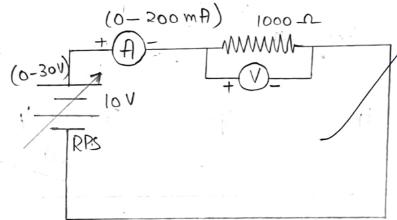
START WRITING FROM HERE:

	HI	<u> </u>		MOIT.OU	ARKED		
	Jo	verify Ohm's Law for	RPS V, K. J. (v)				
- Comment	APP.	I, K.J. (m.fl)(A) Reutical Partical France	(v) Bactical 1	V, k Insertical	S RPS No.		
		Apparatus Name S			Quantity		
	9T.8	1 aloRiBSED 8.12	(0-30 V)	Digital	φŁ		
	320	2 & Ammeter 200.0	(0-200mA)	Digital	01		
	F	P po Volt meter Ean. 0	(0-20V)	Digital	0.1		
	Sto	Resistor	unknown	Carbon	0.3		
	5.	Bread Board	-	_	ot		
a har	6.	Connecting wires	12.4	[2]	As required		
			1/4				

THEORY:

At constant temperature potential difference 'V' across the ends of a conductor is proportional to the Current 'I' flowing through the conductor $V \propto I$, V = IR

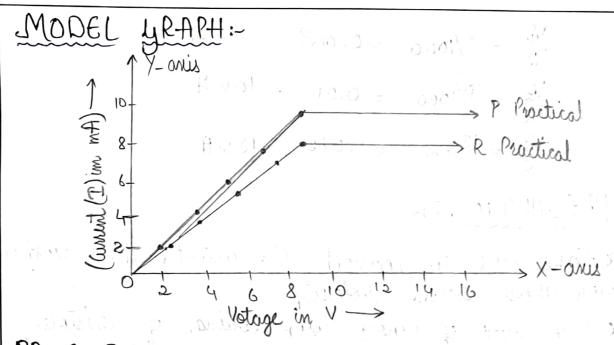
DIAGRAM:



OBSERVATION:~

- 70	WIND !	A. P. P. SANKALI	744 F D	04 1.11	1 3000	i mariori m				
S.	RPS	V, K	~ (n)	Tikas	(mA)(A)	(m) (m)				
No.		Theoritical	Practical	Theoritical	Practical	Theoritical	Practical			
1.	2	42	2.19	2.1	1.2.1	0.004	4.818			
	4	1.24	(V 04.2)	4.3	4.3	0.016	18.06			
	6	in Larian	6.2	0.006	6.3	0.036	39.68			
	8	8	8.3	6.008	8.5	0.064	70.55			
	10	10	10.3	0.01	10.7	0.1	1 10.21			
	12	12	12.4	0.018	12.6	0.14	156.24			
2/4										

ROLL NUMBER:



PROCEDURE:~

1. Make the connections as per circuit diagram.
2. Switch ON the power supply to RPS & apply a Voltage (say (ov)) and take the reading of Ammeter.
3. DIST a graph with Valong N-anis and I along Y-anis

3. Plot a graph with Valong n-anis and I along Y-anis 4. The graph will be a straight line which verifies the

Ohm's daw. Determine the slope of V-I graph. The reciprocal of V-I graph gives resistance of wine.

CALCULA TIONS :~

R=10001 1-TP Sh T=V

V=IR SO I= VR

VI = 2/1000 = 0.002 = 2 MA

Vo = 9/1000 = 0.004 = 4MA

V3 26/1000 = 0.006 = 6 mA

ROLL NUMBER:

 $\frac{V_4}{R} = 8/1000 = 0.008 = 8 \text{ mA}$ $\frac{V_5}{R} = \frac{10/1000}{1000} = 0.01 = 10 \text{ m/H}$ $\frac{V_6}{R} = \frac{12}{1000} = 0.012 = 12 \text{ mft}$

PRECAUTIONS:

* Take care to connect the ammeter and volt meter with this correct polarity.

Course supply

* Make sure of proper color coding of resistors.

* The terminal of the resistance should be properly connected.

towe I Richard and theingh a st live their Hence, Ohm's Law is verified.

H 2V STEADUS HIS

R = 10001=

4 1R SO 9= 4R

AMS = 20021 - 1 11 - 2

AMA: 2000 00010- 2"

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	•		LABORATO	RY WORK S	HEET	3.87.070 ·	
١.	Name of the S	tudent: Al	dul Basith	Khan	11 / la a	110 -: 1	251
	1,		Semester	110 11/0 11	III Delegia da	Roll Number	11.
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	Name of the C	course Faculty.	Dr L. Rajash	ekhar you	id)	aculty ID : IA	RE 1106
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	·	(KU)	12 V 1	.S.		·	0
)	APPA	RATUS			inger of the ti		. E. '
	S.No.	Appora	tas Wome	Range	Type 11	Quanti	ty
	7	RPS		(0-30V)	Digital	ot	
	2	Amm	iter ((0-200mA)	Digital	03	
	3	Volt	meter.	(0-20V)	Digital	03	
	4	Rusis	200	100 V 550 V 120 V	Carbon	03	
	5	Bre	ad Board			OŁ	
		/ -A		_		Ac	0

KVL: Algebraic Sum of all voltages and a closed path or closed loop is Zero EV-0 KCL: Sum of current flowing in the loop is equal to current leaving the loop. KRACTICAL KUL, CIRCUIT DIAGRAM: (0-200 mA) 2201 150-1 1001 $\mathcal{M}\mathcal{M}$ -∕WWM-(0-20V) (0-20V) Voltage Vs = I Theoritical Voltage=104 Ractical Voltage(4)=10V Resistor (1) S.No. 4.60 V 220 3.18 VV Wet weth 2. 2.12 Total Voltage 9.96 V CIRCUIT PRACTICAL RCL DAGRAM: MIR MIZ 220-A (0-200 mA) II (0-200mA) (0-200mA) \$ 100 V RPS

OBSERVATIONS:~

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	Applied	T	A) // ·	T ₁	(Ã)	Te	7	() (T ₁ +)	Î ₂ (Ã)
	Voltage=	Theoritical	Pactical	Resitical	Practical	Thesitial	Radical	Theoistical	Prodical
	10 V	35.7mA	36.4 mA	27.42mf)	21.3 A	14.28mA	14.3mA	37.5 mf	36.1 mA
1									

PROCEDURE:~

To verify KVL: * connect the circuit diagram as said in the figure

*Switch ON the supply to RPS+

* Apply Voltage (say 10 v) & note the voltage readings

* I radually increase the supply voltage in steps * Note the readings of Volt meter * Sum up the volt meter readings (voltage drops) that Should be equal to applied voltage.

* Thus, KVL is verified practically.

To verify KCL:~

* Connect the circuit diagram as shown in figure

*Switch ON the supply to RPS * Apply the voltage (say 10 v) & note the ammeter readings

* Hote the readings of ammeter.

* Sum up the ammeter readings (I, & I2), that should be equal to total current (I).

* Thus, KCL is verified Successfull practically

Calculation:

Theoretical Calculation for KVI

$$T = \frac{V}{R} = \frac{10}{4.70} = \frac{1}{4.7}$$

$$T = 0.0212 \text{ A}$$

$$V_1 = TR_1 = 0.0212 \times 220 \Rightarrow V_1 = 4.664 \text{ V}$$

$$V_2 = TR_2 = 0.0212 \times 150 \Rightarrow V_2 = 3.18 \text{ V}$$

$$V_3 = TR_3 = 0.0212 \times 100 \Rightarrow V_3 = 2.12 \text{ V}$$

$$V = V_1 + V_2 + V_3$$

$$V = 9.964$$

Theoretical Calculation KCI

$$T = V/R = 10/280 = 0.0357 \Rightarrow = 35.7 \text{ mA}$$

$$T = 10/280 = 35.7 \text{ mA}$$

$$T_1 = T \begin{bmatrix} \frac{180}{150+100} \end{bmatrix} = \frac{35.7 \times 10^{-3} \times 150}{250} = 21.42 \text{ mA}$$

$$T_1 = \frac{100}{100+150} = \frac{35.7 \times 10^{-3} \times 100}{250} = 14.28 \text{ mA}$$

By using current division in Req = $\frac{150}{100} + 220$

= 60 + 220 = 280 A

Result: Hence, Kurhoffs Voltage law (KVL) and Kurh Current law (KCL) is verified