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Validity 01.07.2017 30.06.2023
& EEE Branch up to 30.06.2024

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DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

PO MAPPING FOR BEST PRACTICE SESSIONS

Best Practice Title : Project Based Learning

Faculty Name : Apoorvashree H L **Designation** : Assistant Professor

Subject/Subject Code: Analog Electronic Circuits and Op-amps/21EE32 **Sem** :3rd Sem

Objectives of Practice: The main objective of this practice are
- To help students to gain in-depth knowledge of the subject via project.
- Develop in depth knowledge of the topic and technology.
- Use critical thinking skills and make real world connections.
- Demonstrate and understand through products.
- Industry and concept oriented learning.

Program Outcomes (PO's)	Mapping
PO1: Engineering Knowledge	3
PO2: Problem Analysis	2
PO3: Design/ Development Of Solutions	2
PO4: Conduct Investigations Of Complex Problems	1
PO5: Modern Tool Usage	-
PO6: The Engineer And Society	-
PO7: Environment And Sustainability	-
PO8: Ethics	-
PO9: Individual And Team Work	3
PO10: Communication	2
PO11: Project Management And Finance	2
PO12: Life-Long Learning	2
PSO1: To inculcate expertise in technology pertaining to effective transformations and regulations with respect to power and energy sectors with suitable solutions.	1
PSO2: Graduates will be able to possess the capacity to serve as research fellows and apply their expertise within the research institutions related to electrical and power systems.	1

GAPS:PO 5, 6, 7, 8

Impact: It encourages students to draw on their own creativity on problem solving and they learn the bridge gap between theory and practice. Encourages the mastery of technological tools, thus preparing them for the workforce.

3: Excellent 2: Good 1: Acceptable - : No Correlation

Faculty Signature
09/03/2023

Co-ordinator's Signature
09/03/2023

HOD, EEE
09/03/2023

Professor & Head
Dept. Electrical & Electronics Engg.
GSSSIETW, Mysuru, India - 570016

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DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

Report On : Project Based Learning (PBL) in association with IEEE-PES Chapter

Date / Time : 09-03-2023/12.00PM to 01.30PM

Venue : Analog Electronics and Linear IC's Lab, D block 2nd Floor, GSSSIETW, Mysuru

Department of Electrical & Electronics Engineering, GSSS Institute of Engineering & Technology for Women, Mysuru organized Project based Learning (PBL) for 3rd semester students in association with IEEE-PES Chapter, GSSSIETW, Mysuru.

1. Introduction:

Project Based Learning is a model for classroom activity that shifts away from the classroom practices of short, isolated, teacher-centred lessons and instead emphasizes learning activities that are long-term, interdisciplinary, and student-centred.

A systematic teaching method that engages students in learning essential knowledge and life-enhancing skills through an extended, student-influenced inquiry process structured around complex, authentic questions and carefully designed products and tasks.

Project learning, also known as project-based learning, is a dynamic approach to teaching, in which students explore real-world problems and challenges, simultaneously developing cross-curriculum skills while working in small collaborative groups.

2. Characteristics of Project-Based Learning:

- Students making decisions within a framework
- A problem or challenge to be solved;
- Students designing the process for reaching a solution
- Students gathering and managing information
- Continuous Evaluation
- Students regularly reflecting on the process
- A final product to be evaluated for quality
- An atmosphere that tolerates error and change

3. Purpose

- Introducing mini project based learning on the curriculum for 3rd semester students.
- To help students to gain in-depth knowledge of the subject via project.
- During this process, students will be able to learn and understand the various stages of project development.

4. Objective

- Introducing mini project based learning on the curriculum for 3rd semesters.
- Develop in depth knowledge of the topic and technology.
- Use critical thinking skills and make real world connections.
- Demonstrate and understand through products.
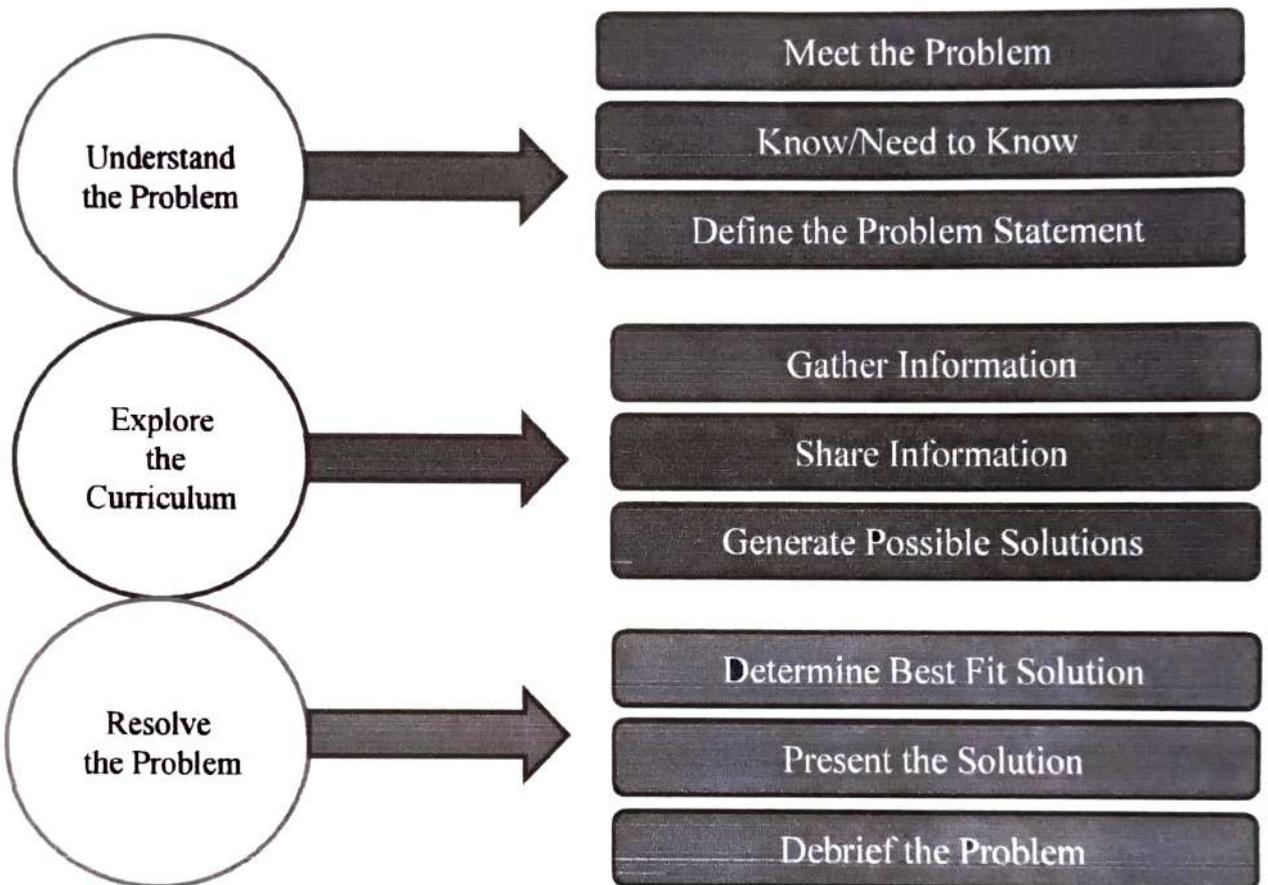- Industry and concept oriented learning.

5. Why Incorporate PBL?

- Promotes collaboration and interaction
- Learners communicate meaningfully and for authentic purposes
- Allows students with a variety of learning styles to demonstrate their acquired knowledge
- Students learn language, content, and skills simultaneously
- Increases learner autonomy
- Provides opportunities for students to pursue their own interests and questions and make decisions about how they will find answers and solve problems.
- Improves education for all students Facilitates student integration of the content of different subjects.
- Teaches children to use their own minds well and applies what they learn in school to life-long endeavors.
- Helps students to become technologically literate
- Establishes connections to life outside the classroom, addressing real-world concerns, and developing real-world skills
- Skills learned through PBL are those desired by today's employers

6. Benefits of PBL

- Offers multiple ways for students to participate and to demonstrate their knowledge.
- Accommodates different kinds of intelligences.
- Shifts students away from doing only what they typically do in a classroom
- Environment.
- Encourages the mastery of technological tools, thus preparing them for the workforce.
- Serves as a medium for students who don't usually participate.
- Prompts students to collaborate while at the same time support self-directed learning.
- Offers a learning experience that draws on the thinking and shared efforts of several individuals.
- Helps students develop a variety of social skills relating to group work and negotiation.
- Promotes the internalization of concepts, values, and modes of thought, especially those related to cooperation and conflict resolution.

- Establishes a supportive and non-competitive climate for students.
- Provides a means for transferring the responsibility for learning from teachers to students.
- Calls upon students to explain or defend their position to others in their project groups, so that learning is more apt to be personalized and valued.

## 7. PBL Teaching and Learning Template

Understand the Problem	→	Meet the Problem
		Know/Need to Know
		Define the Problem Statement
Explore the Curriculum	→	Gather Information
		Share Information
		Generate Possible Solutions
Resolve the Problem	→	Determine Best Fit Solution
		Present the Solution
		Debrief the Problem

8. Impact Analysis

- It encourages students to draw on their own creativity on problem solving and they learn the bridge gap between theory and practice.
- Final products resulting from project based learning can be shared with the department at large, thus fostering ownership and technically strong with the subject scenario.

Subject Identified for Project Based Learning

Semester	3rd
Subject Name/ Subject Code	Analog Electronic Circuits and Op-amp/21EE32
Justification for the selected subject	This subject is chosen because Analog Electronic circuits and op-amp are used in various applications. Students will be able to gain knowledge which will be helpful for doing project on their own.
List of projects	- Invisible laser security alarm - Mobile call detector - Automatic Traffic light - Touch on off sensor - Musical Bell - Mini audio amplifier - Fire alarm - Touch doorbell sensor - Automatic street light

Designing the Circuit:
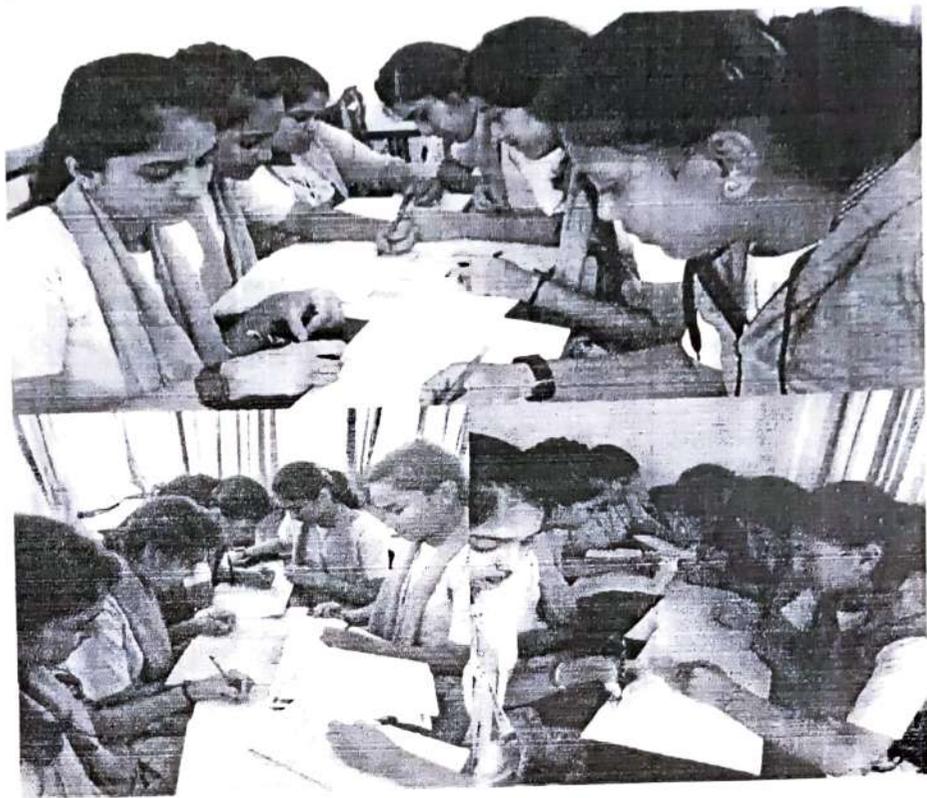
Assembling and testing the Circuit:

Project Demo and Presentation:

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DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

PO MAPPING FOR BEST PRACTICE SESSIONS

Best Practice Title : Applications of Operational amplifier and IC 555timers

Faculty Name : Apoorvashree H L   **Designation :** Assistant Professor

Subject/Subject Code: Operational Amplifiers & Linear IC's/18EE46   **Sem** :4th Sem

Objectives of Practice: The main objective of this practice is analyze the applications of operational amplifier and IC 555 timer using Virtual Lab

Program Outcomes (PO's)	Mapping
PO1: Engineering Knowledge	3
PO2: Problem Analysis	2
PO3: Design/ Development Of Solutions	1
PO4: Conduct Investigations Of Complex Problems	1
PO5: Modern Tool Usage	3
PO6: The Engineer And Society	-
PO7: Environment And Sustainability	-
PO8: Ethics	-
PO9: Individual And Team Work	2
PO10: Communication	-
PO11: Project Management And Finance	-
PO12: Life-Long Learning	1
PSO1: Able to combine the knowledge of Computing, Mathematics, Science, Electrical and Electronics engineering to identify, formulate and solve real time Agriculture, Industries, Research and Societal Problems.	3
PSO2: Make use of contemporary software / hardware tools to explore and resolve Interdisciplinary / Electrical & Electronics Engineering problems.	3
PSO3: Inculcate the concepts of Electrical and Electronics for the reliability, controllability and sustainability of the Power and Energy system.	-
GAPS:PO6, 7, 8,10, 11, PSO3	
Impact: Students were able to analyze the concepts practically and they can get the clear picture of applications of op-amp and IC 555 timer	

3: Excellent   2: Good   1: Acceptable   - : No Correlation

07/09/2022

Faculty Signature

Sushma.H.S.
Co-ordinator's Signature

08/09/22

HOD, EEE
Professor & Head
Dept. of Electrical & Electronics Engg.
GSSSIETW, Mysuru, India - 570016

BEST PRACTICE REPORT - EVEN SEM 2022

SUBJECT/CODE: OPERATIONAL AMPLIFIERS AND LINEAR IC's /18EE46

SEMESTER: 4th SEM

FACULTY NAME: APOORVASHREE H L

Topic: Wein Bridge Oscillator Using Virtual Lab

Presented by:

AISHWARYA M R	4GW20EE001
ANVITHA Y S	4GW20EE002
ARUSHI REDDY Y	4GW20EE003
ASFA FATHIMA N	4GW20EE004

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DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

Wein Bridge Oscillator Using Operational Amplifier Using Virtual Lab

OBJECTIVE:

To analyse Wein bridge oscillator using operational Amplifier.

INTRODUCTION:

It is the commonly used audio frequency oscillator which employs both positive and negative feedback. The feedback signal is connected in the non-inverting input terminal so that the amplifier is working in non-inverting mode. The Wien bridge circuit is connected between amplifier input terminal and output terminal. The bridge has a series RC network in one arm and a parallel RC network in the adjoining arm. In the remaining two arms of the bridge, resistor R1 and Rf are connected. The phase angle criterion for oscillation is that the total phase shift around the circuit must be zero. This condition occurs when bridge is balanced. At resonance, the frequency of oscillation is exactly the resonance frequency of balanced Wien bridge and is given by $f_o = 1/ (2\pi RC)$.

At this frequency, the gain required for sustained oscillation is 3. It is provided by the non-inverting amplifier with Gain $= 1 + (R_f/R_1) = 3$
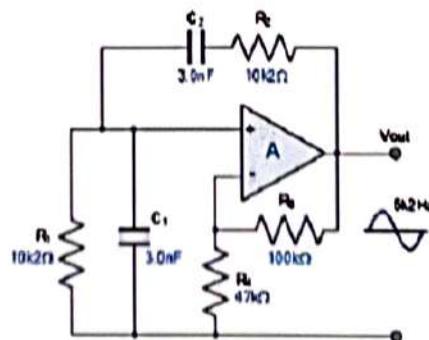

Figure 1. Wein bridge oscillator using operational Amplifier

Effect of variation of resistance and capacitance on frequency:

The frequency of the oscillator varies with the variation in capacitance. It is inversely proportional to the capacitance. In other words, the frequency decreases with the increase in capacitance and vice versa. The variation in resistance has a similar effect on the frequency of the oscillator.

PRETEST:

Wein bridge oscillator is a _____
- O a: Microwave
- O b: RF oscillator
- O c: VHF oscillator
- ● d: Audio frequency oscillator

The Wein bridge oscillator requires the external phase shift of
- ● a: 0
- O b: 60
- O c: 180
- O d: None of the above

An oscillator produces_____. Oscillations
- O a: Damped
- ● b: Undamped
- O c: Modulated
- O d: None of the above

The Wein bridge oscillators uses
- O a: Positive feedback only
- O b: Negative feedback only
- ● c: Both positive and negative
- O d: Data insufficient

An oscillator employs _____ feedback
- ● a: Positive
- O b: Negative
- O c: Neither positive nor negative
- O d: Data insufficient

CIRCUIT DIAGRAM:
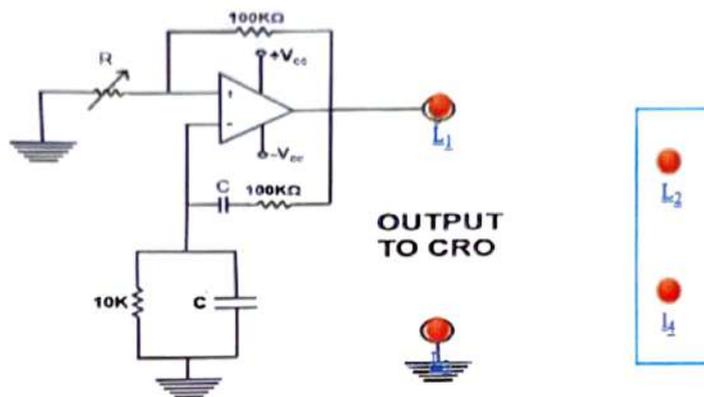
Figure 2: Circuit diagram before Connection

PROCEDURE:

1. Connect the output terminals to the CRO. (L1-L2, L3-L4)

2. Click on the "check" button to check if the connections are right.

3. Once you make sure that the connections are right, you may vary the resistance and calculate the output frequency.

4. Increase the resistance from 0.3KΩ to 300KΩ.

5. Click on "Add to table" button to add the reading to the table.

6. Observe the waveform in the graph.

SIMULATION:

Instructions

1) Connect the output terminals to the cro.(L1-L2,L3-L4)

2) Click on the "check" button to check if the connections are right.

3) Once you make sure that the connections are right, you may vary the resistance and calculate the output frequency

4) Increase the resistance from 0.3KΩ to 300KΩ.

5) Click on "Add to table" button to add the reading to the table.

6) Observe the waveform in the graph

CONNECTION DIAGRAM:
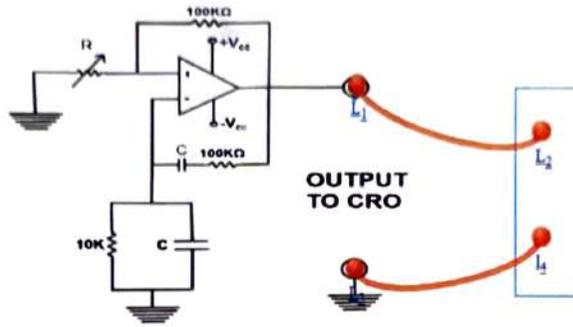
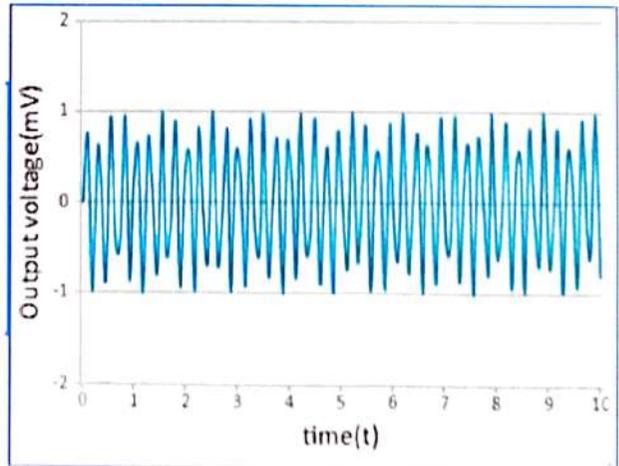**Figure 3: Connection diagram**

TABULAR COLUMN: OUTPUT WAVEFORM:

1.

Resistance(R)	=	80 KΩ
Capacitance(C)	=	0.01 μF
Frequency(f)) =		0.199 KH$_z$
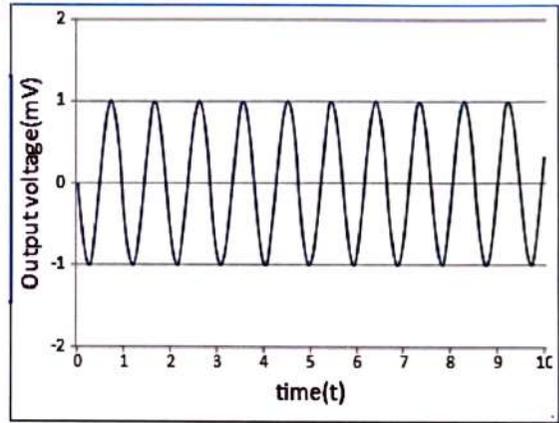
2.

Resistance(R)	=	225 KΩ
Capacitance(C)	=	0.01 μF
Frequency(f)) =		0.071 KH$_z$

POST TEST:

The basic amplifier in Wein bridge oscillator consists of
- ● a: CE stage followed by CC
- ○ b: CC stage followed by CE
- ○ c: CB stage followed by CE
- ○ d: CE stage followed by CB

In a Wein bridge oscillator the RC elements of the bridge provide a
- ○ a: No feedback
- ○ b: Negative feedback
- ○ c: Negative feedback at low frequency
- ● d: Positive feedback

The crystal oscillator frequency is very stable due to .... of the crystal
- ○ a: Rigidity
- ○ b: Vibrations
- ○ c: Low Q
- ● d: High Q

In an LC oscillator, the frequency of oscillator is _____ L or C.
- ○ a: Proportional to square of
- ○ b: Directly proportional to
- ○ c: Independent of the values of
- ● d: Inversely proportional to square root of

In a phase shift oscillator, the frequency determining elements are ....
- ○ a: L and C
- ○ b: R, L and C
- ● c: R and C
- ○ d: None of the above

CONCLUSION:

The operation of an operational amplifier as Wein bridge oscillator is analysed and verified by using virtual lab.

REFERENCES:

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2. Adel S. Sedra, Kenneth C. Smith , Arun N. Chandorkar , Microelectronic Circuits: Theory And Applications,Oxford University Press ,Seventh Edition, (1 June 2017).

3. Donald Neamen, Electronic Circuits: Analysis and Design, McGraw Hill Education; 3 edition (25 August 2006)

4. Jacob Millman, Christos Halkias , Chetan Parikh , Millman's Integrated Electronics, McGraw Hill Education; 2 edition (1 July 2017)

5. B.G. Streetman and S. Banerjee, Solid State Electronic Devices, Prentice Hall.

Faculty Signature
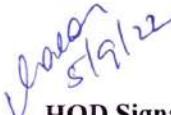
HOD Signature
Professor & Head
Dept. of Electrical & Electronics Engg.
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PO MAPPING FOR BEST PRACTICE SESSIONS

Best Practice Title: Verification of Ohm's Law Using Virtual Lab

Faculty Name: Sushma H S **Designation:** Assistant Professor

Subject/Subject Code: Introduction to Electrical Engineering /BESCK104B

Sem: 1st Sem / A Section

Objectives of Practice: At the end of the experiment, the student would be able to explain ohm's law for resistance in series, resistance in parallel and measure and confirm.

Program Outcomes (PO's)	Mapping
PO1: Engineering Knowledge	3
PO2: Problem Analysis	3
PO3: Design/ Development of Solutions	2
PO4: Conduct Investigations of Complex Problems	
PO5: Modern Tool Usage	
PO6: The Engineer And Society	1
PO7: Environment And Sustainability	1
PO8: Ethics	
PO9: Individual And Team Work	
PO10: Communication	
PO11: Project Management And Finance	
PO12: Life-Long Learning	2
PSO1: To inculcate expertise in technology pertaining to effective transformations and regulations with respect to power and energy sectors with suitable solutions.	2
PSO2: Graduates will be able to possess the capacity to serve as research fellows and apply their expertise within the research institutions related to electrical and power systems.	1
GAPS: PO4, PO5, PO8, PO9, PO10, PO11	
Impact: From this best practice students able to acquire Engineering Knowledge. Problem Analysis Design/Development of solutions to the given problem, resources and modern engineering tools, function effectively as an individual, Students will have the ability of self improvement through the continuous professional development and ability to engage in independent and life-long learning	

3: Excellent   2: Good   1: Acceptable   - : No Correlation

Faculty Signature 12/03/23
Sushma H S

Coordinators signature 11/03/23

12/3/23
HOD,EEE
Dr. G. Sreeramulu Mahesh
Professor & Head
Dept. of Electrical & Electronics Engg,
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BEST PRACTICE REPORT - ODD SEM 2022-23

Date: 12/03/2023

Subject Name: Introduction To Electrical Engineering
Semester: 1st Sem /A Section

Subject Code: BESCK104B
Faculty Name: Sushma H S

Verification of Ohm's law using virtual labs

Objectives: At the end of the experiment, the student would be able to

- Explain Ohm's Law
- Explain Ohm's Law for Resistance in series
- Explain Ohm's Law for Resistance in parallel
- Explain Non Ohmic Device
- Measure and confirm Ohms Law

The law states that the current through a conductor between two points is directly proportional to the voltage across the two points. Such a conductor is characterized by its 'Resistance' – R measured in Ohms. $V = I \times R$ V is the Voltage in Volts across the conductor. I is the current in Amperes through the conductor. Voltage(V) is directly proportional to current i.e $V = I \times R$. Resistance(R) in inversely proportional to current(I)
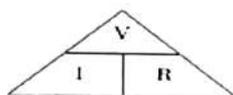

Figure 1: Ohm's Law triangle

NOTE:

From the above figure, the equation may be represented by a triangle known as Ohm's Law triangle, where V (voltage) is placed on the top section, the I (current) is placed to the left section, and the R (resistance) is placed to the right. The line that divides the left and right sections indicates multiplication, and the divider between the top and bottom sections indicates division.

Therefore equations derived from Ohm's law triangle are-

$V = I \times R$

$$I = \frac{V}{R}$$

$$R = \frac{V}{I}$$
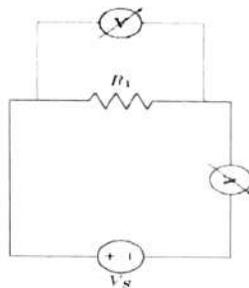
Explaination of Ohm's Law

Figure 2: Current through resistor

From the circuit:

The voltage across resistor is equal to source voltage: $V_R = V_S$

The current through the resistance is given by: $I = V_R/R$

Procedure:

1. Set DC voltage(0-30 V).
2. Set the Resistance Value (1 Kohm - 100 Kohm).
3. Voltmeter is placed parallel to resistor and ammeter series with resistor.
4. Now note the Voltmeter and Ammeter reading for DC voltage.
5. Increase the DC voltage by 2 factor and note Voltmeter and Ammeter Readings. Keep resistance value constant
6. Plot the V-I graph to verify Ohm's Law.
7. Repeat step 2 to 6 for another set of resistance value.
8. V versus I graph is a straight line.
9. Therefore from the graph we see that the resistance do adhere to Ohm's law. Thus resistance is said to be an Ohmic device.
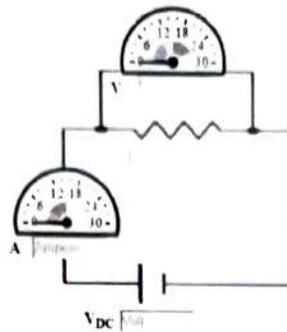
Figure:1

The experiment of confirming Ohms Law with Resistance in series.

1. Set DC voltage(0-30 V).
2. Here resistance are kept in series. Set the resistance R1(1 Kohm - 100 Kohm) value and set resistance R2(5 - 15 Kohm).
3. Voltmeter is placed parallel with resistor and ammeter series with resistor.
4. Now note the Voltmeter and Ammeter reading for DC voltage.
5. Increase the DC voltage by 2 factor and note Voltmeter and Ammeter Readings. Keeping resistance value constant
6. Plot the V-I graph to verify Ohm's Law
7. Repeat step 2 to 6 for another set of resistance value.
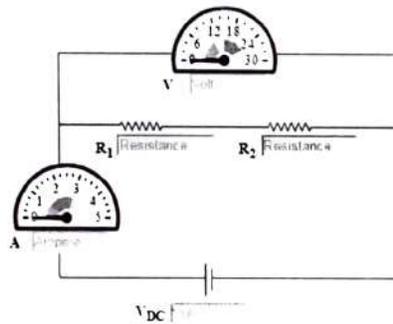
Figure: 2

The experiment of confirming Ohms Law with Resistance in parallel.

- Set DC voltage(0-30 V).
- Here Resistances are kept parallelly. Set the resistance R1 (100 ohm- 2 kohm) value and set resistance R2(1 -30 kohm).
- Voltmeter is placed parallel to resistor and ammeter series with resistor.
- Now note the Voltmeter and Ammeter reading for DC voltage.
- Increase the DC voltage by 2 factor and note Voltmeter and Ammeter Readings. Keeping Resistance value constant
- Plot the V-I graph to verify Ohm's Law.
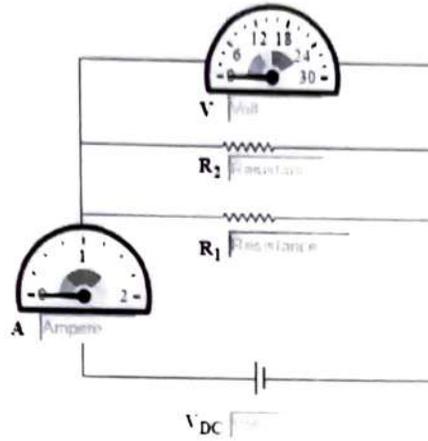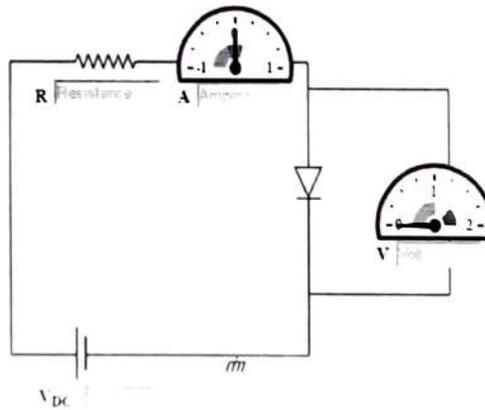- Repeat step 2 to 6 for another set of resistance value.

Figure: 3

The experiment of confirming Non Ohmic Device.

- Set DC voltage to 5 V .
- Use the resistor of 100K ohms and a diode.
- Voltmeter is placed parallel to Silicon diode and ammeter series with resistor.
- Now note the Voltmeter and Ammeter reading for DC voltage 5V.
- Decrease the Resistance as 75K, 51K, 24K and 10K Ohms and take the readings and note Voltmeter reading across Silicon diode and Ammeter reading.
- Plot the V-I graph and observe the change.
- The Change is not simply proportional. V versus I graph is not a straight line.
- Therefore from the graph we see that the diode does not adhere to Ohms law. Thus diode is said to be non-Ohmic device.

Figure: 4

1.Draw the circuit

Ohm's Law

INSTRUCTION

EXPERIMENTAL TABLE

Resistance: ☐ KΩ

Serial No.	Voltage(Volt) V	Current(milliAmpere) mA

CONTROLS

DC volt ⬤   Volt
Resistance ⬤   Kohms

Add to Table   Plot   Clear

Keep the Resistance Value Constant

1. **Connect the components as mentioned below:**
   L1-L3, L3-L7, L4-L5, L4-L8, L6-L9, L9-L12.(For eg. click on 1 and then drag to 3 and so on.)
2. **Click on 'Check Connection' button to check the connections.**
3. **If connected wrong click on 'Delete all connection' button to erase all the connections.**
4. **Set the Resistance Value (1 Kohm - 100 Kohm).**
5. **Set DC voltage (0-30 V).**
6. **Voltmeter is placed parallel to resistor and ammeter in series with resistor.**
7. **Now note the Voltmeter and Ammeter reading for the DC voltage and click on 'Add to table' button.**
8. **Increase the DC voltage by a factor of 2 and note Voltmeter and Ammeter Readings. Keeping resistance value constant**
9. **Click on 'Plot' button to plot the V-I graph to verify Ohm's Law.**
10. **V versus I graph is a straight line.**
11. **Therefore from the graph we see that the resistance do adhere to Ohm's law. Thus resistance is said to be an Ohmic device.**
12. **Repeat the experiment for another set of resistance value.**

DC volt :   Volt
Resistance : ⬤   Kohms

Add to Table   Plot   Clear
Check connection   Delete all connection

Ohm's Law

EXPERIMENTAL TABLE

Resistance 8   KΩ

Serial No.	Voltage(Volt) V	Current(milliAmpere) mA
1	1	0 200
2	3	0 600
3	6	1 20
4	10	2 00
5	13	2 60
6	22	4 40
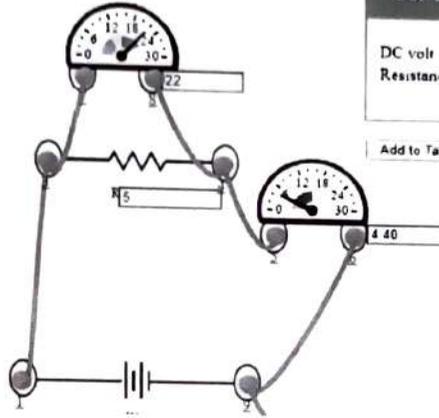
CONTROLS

DC volt	Volt
Resistance	Kohms

Add to Table	Plot	Clear
	Check connection	Delete all connection

GRAPH PLOT

V-I Plot
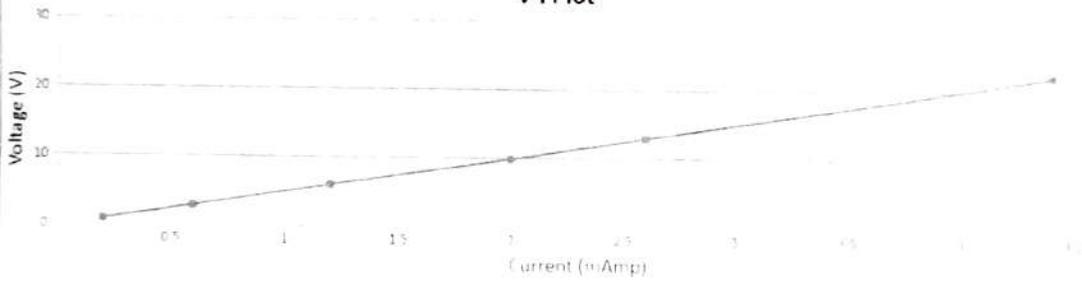
Voltage (V)

Current (mAmp)

Ohm's Law Series

EXPERIMENTAL TABLE

Resistance(R_1): 37 KΩ

Resistance(R_2): 7 KΩ

Resistance(R_{eq}): 44 KΩ

Serial No.	Voltage(Volt) V	Current(milliAmpere) mA
1	0	0.00
2	2	0.0800
3	8	0.308
4	15	0.341
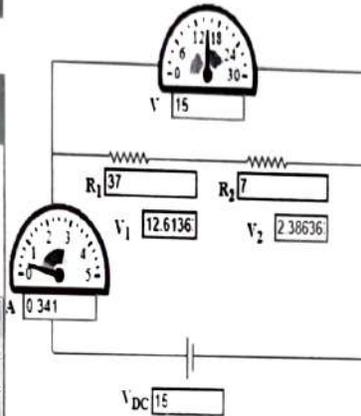
V 15

R_1 37 R_2 7

V_1 12.6136 V_2 2.38636

A 0.341

V_{DC} 15

CONTROLS

DC volt — Volt

Resistance1 — Kohms

Resistance2 — Kohms

[Add to Table] [Plot] [Clear]

Print It

Take another sets of Voltmeter and
Ammeter readings for another bias value

GRAPH PLOT

V-I Plot

Voltage (V) vs Current (mAmp)

Ohm's Law Series

EXPERIMENTAL TABLE

Resistance(R_1): 93 $K\Omega$
Resistance(R_2): 12 $K\Omega$
Resistance(R_{eq}): 105 $K\Omega$

Serial No.	Voltage(Volt) V	Current(milliAmpere) mA
1	2	0.100
2	7	0.167
3	21	0.304
4	27	0.293
5	30	0.286

CONTROLS

DC volt ———————● Volt
Resistance1 ———————● Kohms
Resistance2 ————● Kohms

Add to Table	Plot	Clear

Check connection   Delete all connection

30

93   12

V_1 26.5714 V_2 3.42857

0.286

Print1:
Take another sets of Voltmeter and Ammeter readings for another Resistance value

30

GRAPH PLOT

V-I Plot

Ohm's Law Parallel
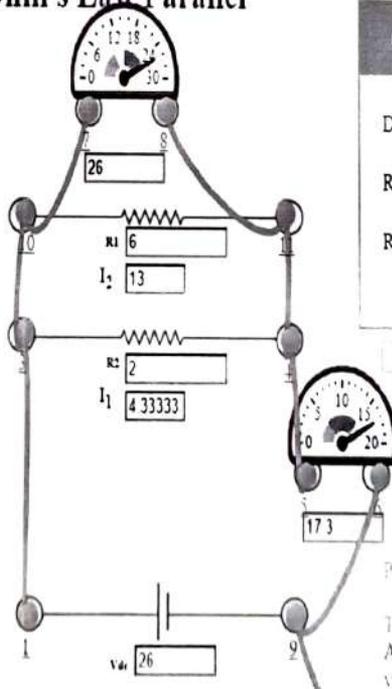
Ohm's Law Parallel

INSTRUCTION

EXPERIMENTAL TABLE

Resistance(R_1): 6 kΩ

Resistance(R_2): 2 kΩ

Resistance(R_{eq}): 1.5 kΩ

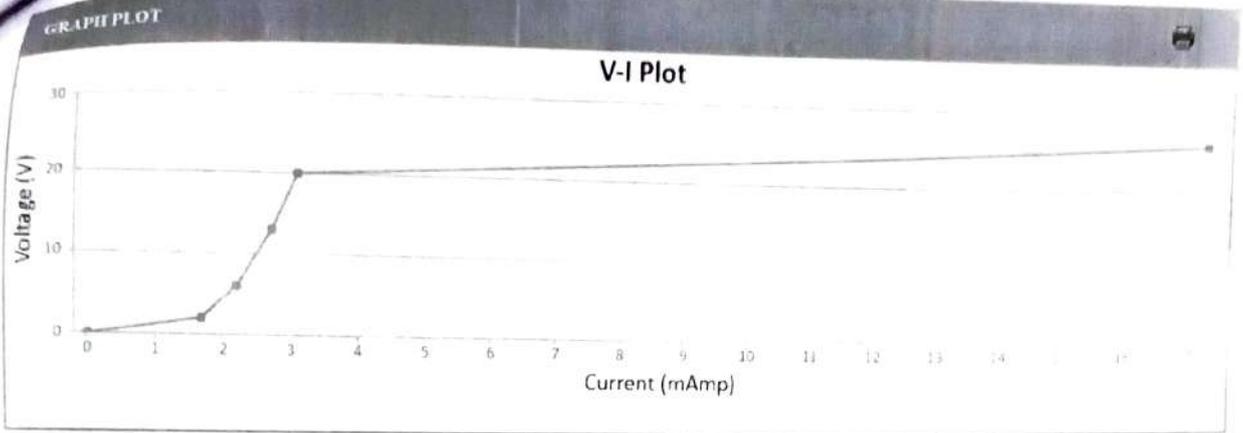| Serial No.	Voltage(Volt) V	Current(milliAmpere) mA
1	0	0.00
2	2	1.67
3	6	2.20
4	13	2.71
5	20	3.10
6	26	17.3

26

R1 6 I_2 13

R2 2 I_1 4.33333

17.3

V_d 26

CONTROLS

DC volt ——————————● Volt

Resistance1 ————● kOhms

Resistance2 ——● kohms

Add to Table   Plot   Clear

Check connection   Delete all connection

Print ?

Take another sets of Voltmeter and Ammeter readings for another Resistance value

V-I Plot

Voltage (V) vs Current (mAmp)

Virtual Labs
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Non Ohmic Device
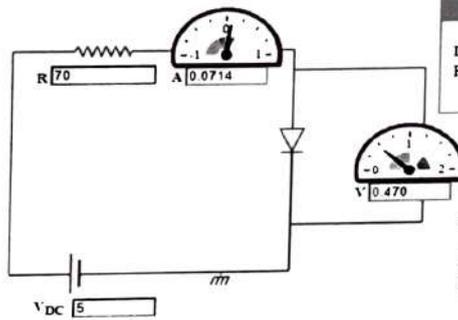
INSTRUCTION

EXPERIMENTAL TABLE

Serial No.	Voltage(Volt)	Current (mAmp)	Resistance (KOhm)
1	0.521	0.500	10
2	0.500	0.227	22
3	0.487	0.139	36
4	0.477	0.0926	54
5	0.470	0.0714	70

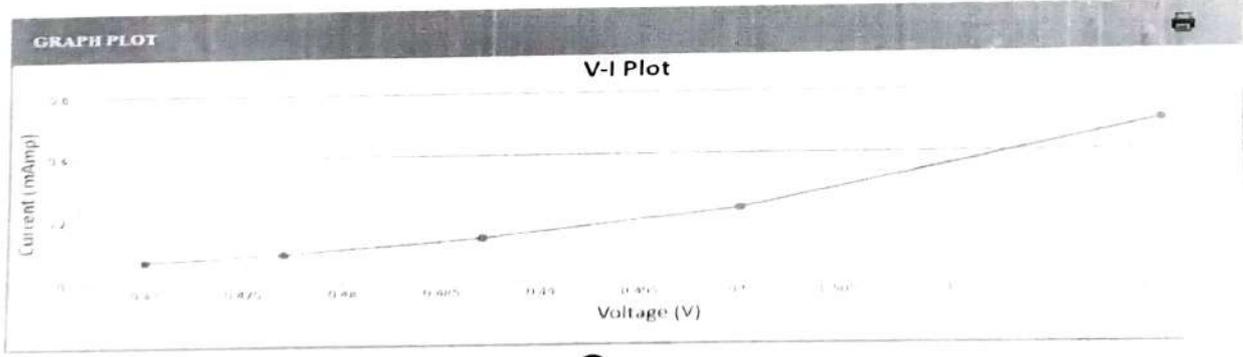R 70   A 0.0714

V 0.470

V_DC 5

CONTROLS

DC volt : ——— Volt
Resistance ——— Kohms

Add to Table   Plot   Clear

Print It

Take another sets of Voltmeter and Ammeter readings for another Resistance value

V-I Plot

Current (mAmp) vs Voltage (V)

Sushma·H·S
Faculty Signature 12|03|2023

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