

LESSON PLAN

Trade: ELECTRICIAN
 Date: 08.02.2021
 Lesson No: 01

Module/Unit: II
 Time: 30 Minutes

I. PREPARATION:

Title: Verification of Kirchhoff's Law

(1) Objectives: (After teaching this lesson the learners will be able to)

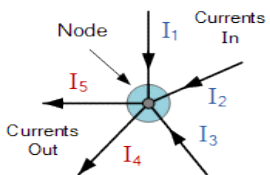
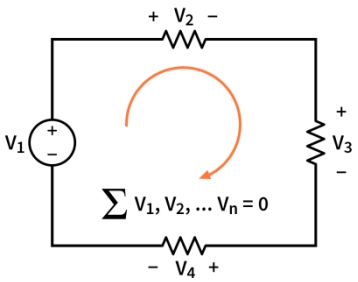
1. Define Kirchhoff's Law and state its uses.
2. List the types of Kirchhoff's Law
3. Explain the Kirchhoff's Law for current and voltage in series & parallel circuits
4. State the advantage and Disadvantage of Kirchhoff's Law

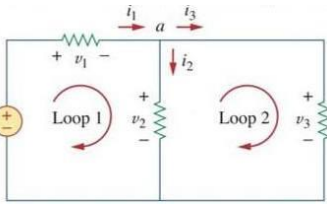
(2) Teaching Aids: Chalkboard, chalk, charts, computer system, projector, etc.

(3) Introduction:

- (a) Review: Introduction to Common DC Circuits and their function.
- (b) Motivation: Kirchhoff's Law is a very important for network analysis.

II. PRESENTATION:

Development / Topics	Information Points	Hints
Definition	Kirchhoff's Law describes current in a node and voltage around loop.	Use chart, project
Use	Kirchhoff's rules can be used to analyze any circuit, simple or complex	
Type of Kirchhoff's Law	1- Kirchhoff's Current Law (KCL) 2- Kirchhoff's Voltage Law (KVL)	 $I_1 + I_2 + I_3 + (-I_4 + -I_5) = 0$
1 st Law	The current flowing into a node or a junction must be equal to current flowing out of it.	
2 nd Law	The sum of all voltages around any closed loop is a circuit must equal zero.	 $\sum V_1, V_2, \dots V_n = 0$

Development / Topics	Information Points	Hints
<p>Series & Parallel circuits</p> <p>Advantage</p> <p>Disadvantage</p>	<p>Since two Resistors R1 and R2 are wired together in series connection, the same current must flow through each resistor.</p> <p>(1) Calculation of unknown current and voltage is easy. (2) It gives us a way to calculate the voltage in a complicated DC Circuit.</p> <p>(1) To use in an AC circuit with reactive components. So does not apply when there is a fluctuating magnetic field present.</p>	 <p>Use chart, project</p> <p>Solve problem</p>

III. APPLICATION:

1. What is Kirchhoff's Law?
2. How many type of Kirchhoff's Law?
3. Tell few advantage of Kirchhoff's Law?

Summary:

We had discussed about Define the Kirchhoff's Law, Differentiate between Kirchhoff's Current Law Kirchhoff's voltage Law for series and parallel circuits; Use the KCL & KVL for Network analysis.

IV. TEST:

Assignment:

1. What are the two law's of Kirchhoff's Law? Explain.
2. What is Kirchhoff's Current Law formula?
3. What is Kirchhoff's current & voltage law?

Reference: NIMI, 1st year Electrician trade Theory.

Next lesson: Conductor Joint.

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