LAB-2

Verification of Kirchoff's laws

Aim: To verify kirchoff's voltage law for the electric circuit.

Apparatus required:

S.NO	Name of the equipment	Range/ specification	Type	Quantity
1.	Resistors	-	Carbon composite	5
2.	Bread board	30V, 1A	-	1
3.	Regulated Power supply	(0-30V), 2A	-	1
4.	voltmeter	(0-30V), MC	Digital	5
5.	Connecting wires	1/22 guage	Copper	required.

Procedure for KVL

1. Connect the circuit as per circuit diagram
2. switch on the power supply
3. Apply the input voltages and note down the readings of the voltmeters i.e, Voltage drop accross all the resistances
4. Repeat step-3 for different input voltages.

Theoritical calculations

Circuit diagram for KCL

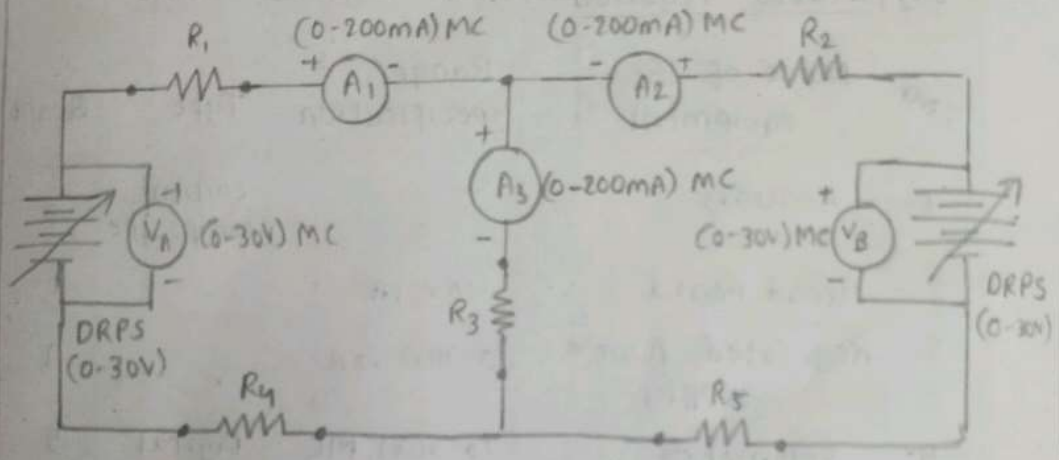


Table for KCL

S.No	Applied voltages		I_1	I_2	I_3
	V_A (V)	V_B (V)	(mA)	(mA)	(mA)

b) To verify Kirchoff's current law for electric circuit.

Apparatus required

DRPS (0-30V)

Procedure for KCL

1. Connect the circuit as per circuit diagram
2. Switch on the power supply.
3. Apply the input voltages and note down the readings of the ammeters
4. Repeat step 3 for different input voltages.

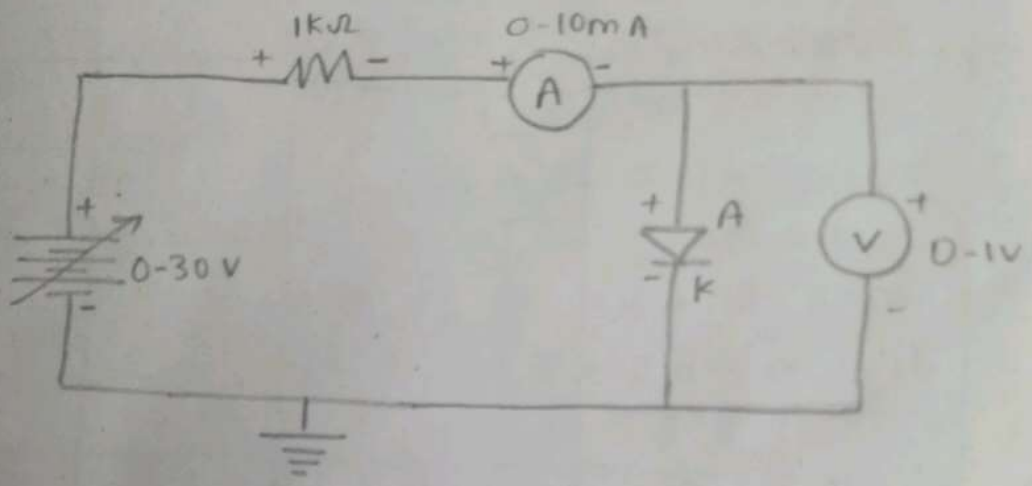
Theoritical calculations

Precautions

1. Set the current adjustment knob of the RPS in maximum position and voltage coarse and voltage fine adjustment knobs in minimum position.
2. While using multimeter as voltmeter or ammeter insert connecting probes in proper socket.

Circuit diagram

Forward Bias



Reverse Bias