

<b>Course Name:</b>	<b>Elements of Electrical and Electronics Engineering</b>	<b>Semester:</b>	<b>I</b>
<b>Date of Performance:</b>	<b>13/12 / 2022</b>	<b>Batch No:</b>	<b>C2-2</b>
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<b>Faculty Sign &amp; Date:</b>		<b>Grade/Marks:</b>	<b>/ 25</b>

## Experiment No: 8

### Title: Measurement of Power using Two Wattmeter Method

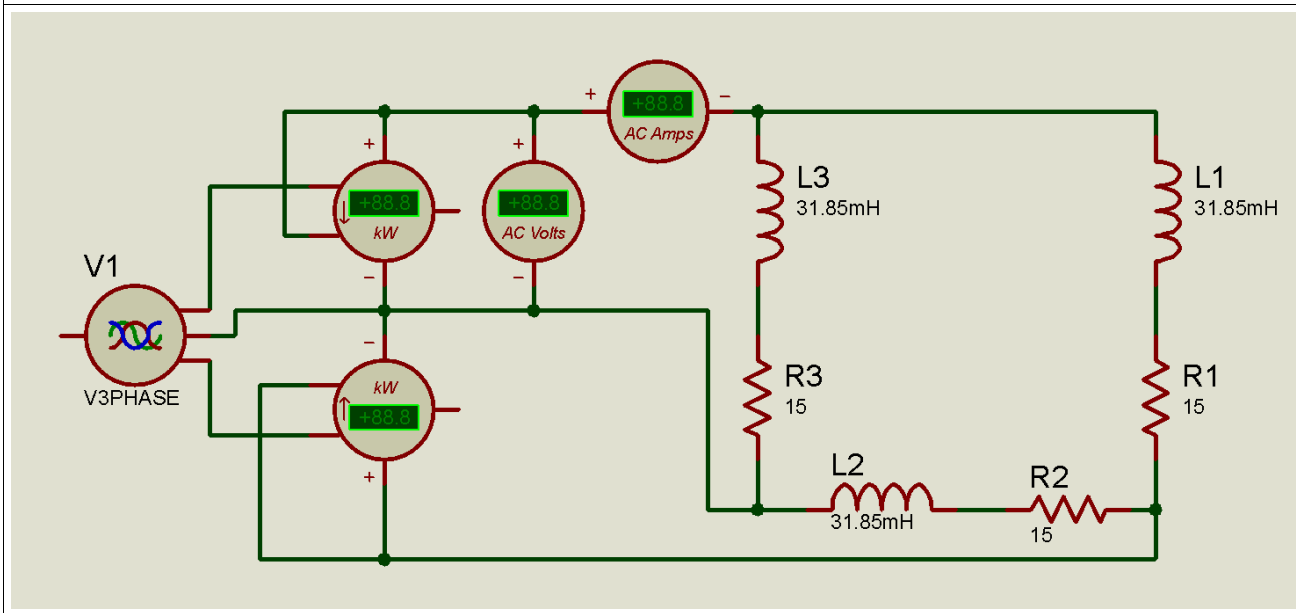
#### Aim and Objective of the Experiment:

- To measure the power of three phase power using Two Wattmeter Method

#### COs to be achieved:

**CO1:** Analyze resistive networks excited by DC sources using various network theorems.

#### Circuit Diagram/ Block Diagram:



**R1 = 15 ohm, L1=31.85 mH,**

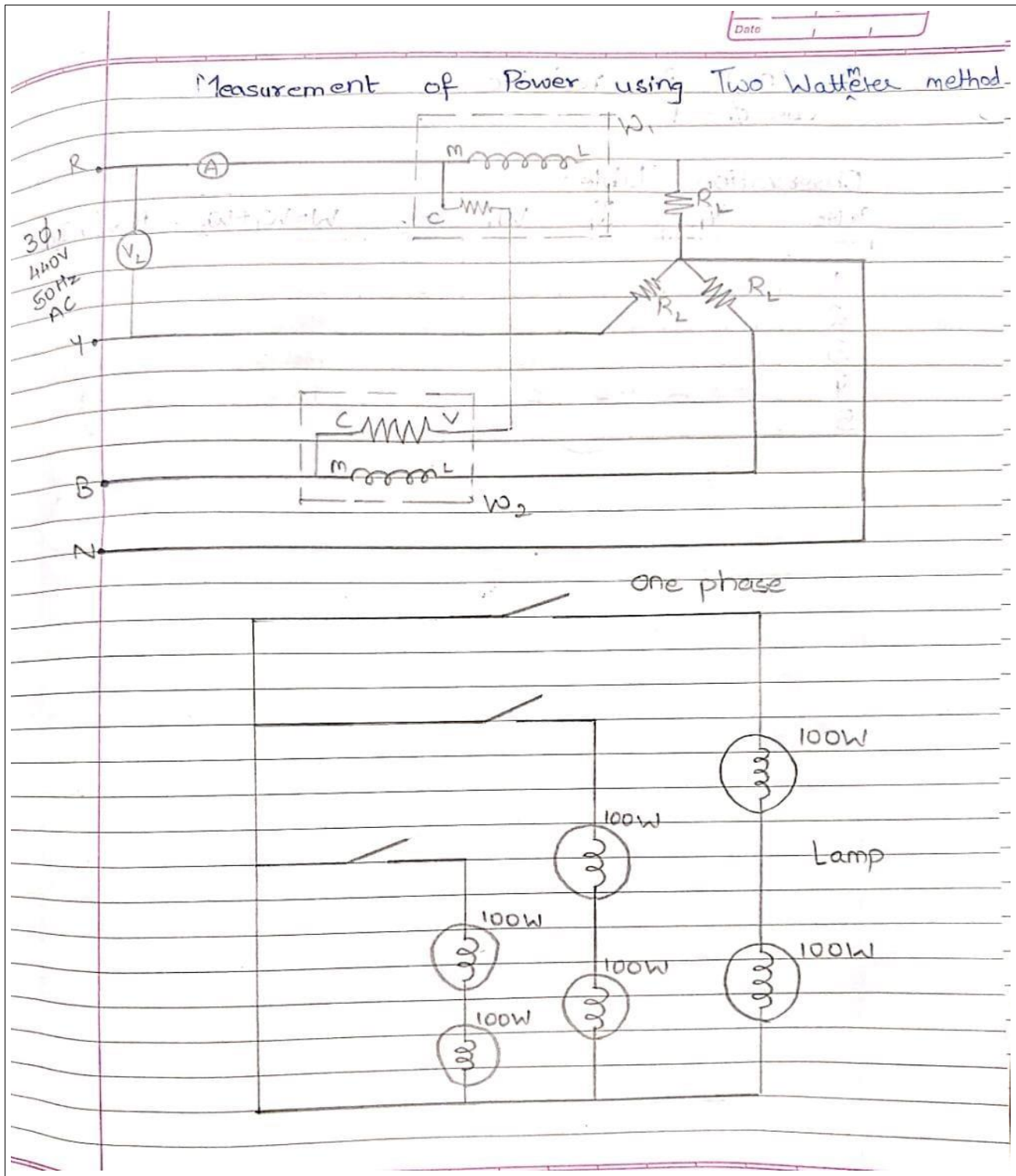
### Stepwise-Procedure:

1. Connect the circuit as shown in circuit diagram
2. Increase the load and note down the reading  $V_L, I_L, W_1$  and  $W_2$
3. Practically you will obtain total power  $W = W_1 + W_2$
4. Theoretically power is measured by using formula  $P = \sqrt{3} V_L I_L \cos \phi$ , using  $\cos \phi = 1$  (unity) for resistive load.

### Observation Table:

Sr.no	$V_L$ v	$I_L$ A	$W_1$ KW	$W_2$ KW	$W = (W_1 + W_2)$ KW	$P = \sqrt{3} V_L I_L \cos \phi$ KW
1	416.2	3.5	1000	1200	2200	2523.00
2	417.2	2.6	98	980	1960	1878.74
3	417.5	1.7	800	600	1400	1314.11
4	423.2	0.8	500	400	900	585.71

Screenshot of Output:



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As load is resistive  
 $\cos \phi = 1$

Observation Table:

	Sr.No.	$V_L$	$I_L$	$W_1$	$W_2$	$W=W_1+W_2$	$P=\sqrt{3}V_L I_L \cos \phi$
2400	1	416.2	3.5	1000	1200	2200	2523.00
1800	2	417.2	2.6	980	980	1960	1878.74
1200	3	417.5	1.7	800	600	1400	1314.11
600	4	423.2	0.8	500	400	900	585.71
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**Conclusion:**

Thus, we learnt how to measure power using two wattmeter method.

**Signature of faculty in-charge with Date:**