Course Name:	Elements of Electrical and Electronics Engineering	Semester:	I
Date of Performance:	30/ 10/ 2023	Batch No:	C5_1
Faculty Name:	Mr. Sandeep Hanumante	Roll No:	16010123293
Faculty Sign & Date:		Grade/Marks:	/ 25

Experiment No: 7

Title: Measurement of Power using Two Wattmeter Method
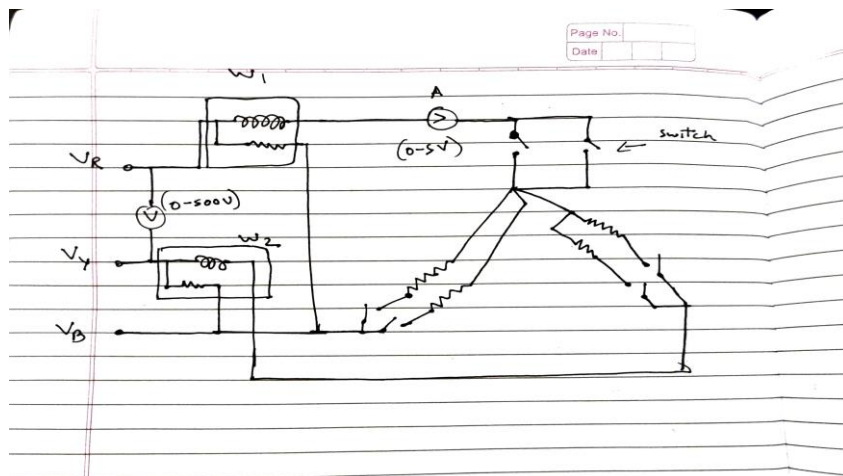
Aim and Objective of the Experiment:
- To measure the power of three phase power using Two Wattmeter Method

COs to be achieved:
CO2: Demonstrate and analyze steady state response of single phase and three phase circuits

Circuit Diagram:

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Stepwise-Procedure:

1. Connect the circuit as shown in circuit diagram
2. Increase the load and note down the reading VL,IL,W1 and W2
3. Practically you will obtain total power W=W1+W2
4. Theoretically power is measured by using formula P=√3V$_L$I$_L$cosϕ,
   using cosϕ=1(unity) for resistive load.

Observation Table:

Sr.no	V$_L$ (Volts)	I$_L$ (Amp)		W$_1$ (KW)		W$_2$ (KW)		P$_T$= (W$_1$+W$_2$) (KW)	
		TH	**PR**						
1	405	0.88	0.80	240		360		600	
2	405	1.75	1.28	480		680		1160	

<u>Theoretical Calculations:</u>

Power= √3 x V$_L$ x I$_L$ x cos φ
cos φ=1
Power =Wattage rating of lamp load x No of lamps (One lamp is of 100W rating)

W1= V$_L$ x I$_L$ x cos (30+φ)

$$Φ=0$$

W2= V$_L$ x I$_L$ x cos (30-φ)

Total Power=P=W1+W2

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Conclusion:

Measured the power of three phase power using two wattmeter method. Practically analyzed steady state response of single phase and three phase circuits.

Signature of faculty in-charge with Date: