Course Name:	**Elements of Electrical and Electronics Engineering**	**Semester:**	**I**
Date of Performance:	**28/11/ 2023**	**Batch No:**	**C5_3**
Faculty Name:	**SPJ**	**Roll No:**	**16010123325 (53)**
Faculty Sign & Date:		**Grade/Marks:**	**/ 25**

Experiment No: 7

Title: Measurement of Power using Two Wattmeter Method

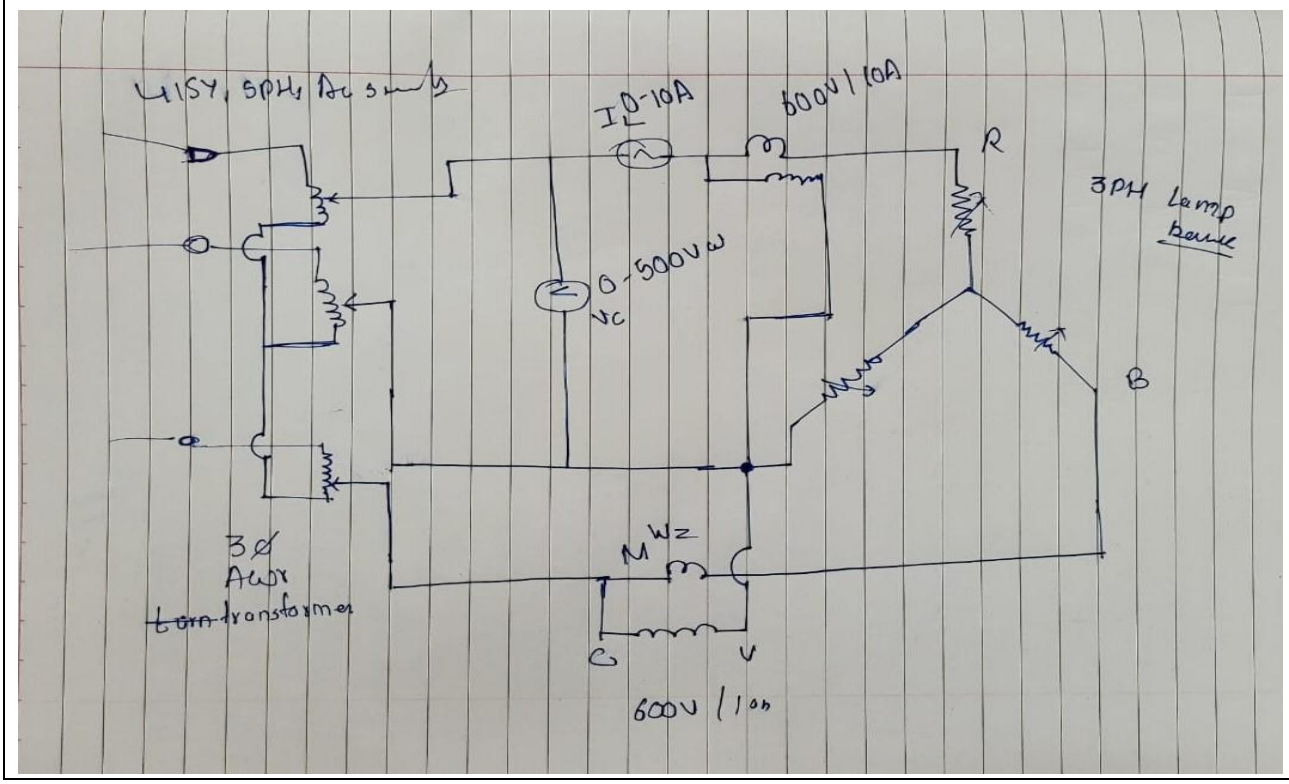
Aim and Objective of the Experiment:

- 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:



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 $P=\sqrt{3}V_L I_L \cos\phi$, using $\cos\phi=1$(unity) for resistive load.

Observation Table:

Sr.no	V_L (Volts)	I_L (Amp)		W_1 (KW)		W_2 (KW)		W= (W_1+W_2) (KW)		P = $\sqrt{3}V_L I_L COS\phi$ (KW)	Lamp load given from lamp bank (KW)
		TH	PR	TH	PR	TH	PR	TH	PR		
1	415	-	0.9	-	40	-	45	-	680	**646.9**	6
2	415	-	1.7	-	70	-	80	-	1200	**1221.9**	12
3		-		-		-		-			
4		-		-		-		-			

Theoretical Calculations:

Power= $\sqrt{3}$ 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

Conclusion:
In summary, the Two Wattmeter Method proves to be a robust and accurate technique for measuring three-phase power, ensuring reliable assessments of power consumption in diverse electrical systems. This method enhances efficiency and precision in power measurement applications.

Signature of faculty in-charge with Date: