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| **Course Name:** | **Elements of Electrical and Electronics Engineering** | **Semester:** | **I** |
| **Date of Performance:** | **21/01/22** | **Batch No:** | **G3** |
| **Faculty Name:** | **Milind Marathe** | **Roll No:** | **16010421071** |
| **Faculty Sign & Date:** |  | **Grade/Marks:** | **/ 25** |

**Experiment No: 9**

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

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| **Aim and Objective of the Experiment:** |
| * To measure the power of three phase power using Two Wattmeter Method |

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| **COs to be achieved:** |
| **CO1:** Analyze resistive networks excited by DC sources using various network theorems. |

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| **Circuit Diagram/ Block Diagram:** |
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| **Stepwise-Procedure:** |
| 1. 1.Connect the circuit as shown in circuit diagram 2. 2. Increase the load and note down the reading VL, IL, W1 and W2 3. 3. Practically you will obtain total power W=W1+W2 4. 4. Theoretically power is measured by using formula P=√3VLILcosϕ,   using cosϕ=1(unity) for resistive load. |

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| **Observation Table:** |
| |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | | **Sr.no** |  | **VL (V)** | **IL (A)** | **W1 (kW)** | **W2 (kW)** | **W=W1+W2 (kW)** | **P=√3VLILCosϕ (kW)** | **Load** | | **1** | Observed | 424 | 32.1 | 5.34 | 13.5 | 18.84 | 18.83 | Star | |  | Calculated | 424 | 31.624 | 5.27 | 13.31 | 18.58 | 18.56 |  | | **2** | Observed | 319 | 24.1 | 3.01 | 7.60 | 10.61 | 10.64 | Star | |  | Calculated | 319 | 23.792 | 2.98 | 7.54 | 10.52 | 10.50 |  | | **3** | Observed | 400 | 90.7 | 14.2 | 36 | 50.2 | 50.21 | Delta | |  | Calculated | 400 | 89.29 | 14.03 | 35.47 | 49.50 | 49.43 |  | | **4** | Observed | 301 | 68.1 | 8.03 | 20.3 | 2.33 | 28.37 | Delta | |  | Calculated | 301 | 67.19 | 7.95 | 20.08 | 28.03 | 27.99 |  | |

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| **Screenshot of Output:** |
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| **Calculations:** |
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| **Conclusion:** |
| From this experiment we learned to calculate power of three phase circuit using two Wattmeter. Power of three phase circuit using Two Wattmeter Method is successfully measured for Star and Delta Load Connections. |

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