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| **Course Name:** | **Elements of Electrical and Electronics Engineering** | **Semester:** | **I/II** |
| **Date of Performance:** |  | **Batch No:** | **C1** |
| **Faculty Name:** |  | **Roll No:** | **16010121152** |
| **Faculty Sign & Date:** |  | **Grade/Marks:** | **/ 25** |

**Tejas Pundlik – C1 – 16010121152**

**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:** |
| **Circuit 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:**  **STAR LOAD**   |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | | **Sr No.** | **Load** | **VL** | **IL** | **W1** | **W2** | **W=W1+W2** | **√3VLILcosϕ** | | **1** | **R = 100** | **398 V** | **2.28 A** | **791 W** | **793 W** | **1584 W** | **1571.68 W** | | **2** | **R = 100**  **L = 1H** | **398 V** | **0.70 A** | **-59.4 W** | **205 W** | **145.6 W** | **146.36 W** | | **3** | **R = 100**  **C = 10uF** | **398 V** | **0.69 A** | **201 W** | **60 W** | **261 W** | **260.69 W** |   **DELTA LOAD**   |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | | **Sr No.** | **Load** | **VL** | **IL** | **W1** | **W2** | **W=W1+W2** | **√3VLILcosϕ** | | **1** | **R = 100** | **395 V** | **6.89 A** | **2370 W** | **2380 W** | **4750 W** | **4713.72 W** | | **2** | **R = 100**  **L = 1H** | **395 V** | **2.1 A** | **-178 W** | **614 W** | **436 W** | **428.36 W** | | **3** | **R = 100**  **C = 10uF** | **395 V** | **2.06 A** | **605 W** | **-179 W** | **426 W** | **415.78 W** | |
| Screenshot of Output:  Star Load        Delta Load        Theoretical Proof |

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| **Conclusion:** |
| We have successfully measured the power of a three-phase power system using two watt-meters. |

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