|  |  |  |  |
| --- | --- | --- | --- |
| **Course Name:** | **Elements of Electrical and Electronics Engineering** | **Semester:** | **I/II** |
| **Date of Performance:** |  | **Batch No:** | **A3** |
| **Faculty Name:** | **Maruti Zalte** | **Roll No:** | **16010121051** |
| **Faculty Sign & Date:** |  | **Grade/Marks:** | **/ 25** |

**Experiment No: 9**

**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:** |
| **Circuit Diagram** |

|  |
| --- |
| **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. |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | **Observation Table:**   |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | | Sr.no | VL | IL | W1 | W2 | W=W1+W2 | P=√3VLILCOSϕ | Load | | 1 | 426 | 32.2 | 6.34 | 6.33 | 12.67 | 16.4 KW | Star connected R-L (R= 6.2ohm , L=0.0148H ,p.f= 0.8) | | 2 | 391 | 28.9 | 5.24 | 5.26 | 10.5 | 13.6 KW |  | | 3 | 406 | 91.9 | 15.9 | 36.4 | 52.3 | 44.92 KW | Delta connected R-L (R= 6.2ohm , L=0.0148H ,p.f= 0.8) | | 4 | 437 | 0.76 | 0.25 | -0.07 | 0.18 | 0.4 KW | Star connected R-C (R= 100ohm , C=10uF ,p.f= ) | | 5 | 438 | 2.28 | 0.76 | -0.10 | 0.66 | 1.20 KW | Delta connected R-C (R= 100ohm , C=10uF , p.f .= ) | | |
| ScreenShot of Outputs:- |

|  |
| --- |
| **Conclusion:** |
| Thus we have successfully completed the experiment where we learnt how to use delta and star transformation. |

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