**19EE21P2-ELECTRO MECHANICAL ENERGY CONVERSION-I LAB**

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| **Course Category:** | Professional core | **Credits:** | 1.5 |
| **Course Type:** | Laboratory | **Lecture-Tutorial-Practical:** | 0-0-3 |
| **Pre-requisite:** | Basic concepts of Electro Magnetics, Knowledge of DC machines and Transformers is required. | **Sessional Evaluation:**  **External Exam Evaluation:**  **Total Marks:** | 40  60  100 |

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| **Course Objectives:** | Students undergoing this course are expected to learn : | |
| 1. The test performance of DC machines 2. Load testing methods to obtain the performance of DC motors 3. The speed control methods of DC motors. 4. The separation of losses in DC motors . 5. The performance tests of single phase and three phase Transformers. 6. The assessment of DC machines and Transformers. | |
| **Course Outcomes:** | After completing the course the student will be able to | |
| CO1 | Test performance of DC motors and DC generators. |
| CO2 | Perform load tests on DC motors. |
| CO3 | Control the speed of DC motors. |
| CO4 | Separate the losses in DC motors. |
| CO5 | Evaluate the performance of single phase and three phase Transformers. |
| CO6 | Know the assessment of DC machines and Transformers. |
| **Course Content:** | Minimum of 10 experiments to be conducted out of the following:  **List of Experiments**   1. Excitation Characteristics of    1. Separately Excited DC Generator    2. Self Excited DC Shunt Generator 2. External Characteristics of DC Shunt Generator 3. External Characteristics of DC Compound Generator 4. Swinburne’s Test 5. Brake Test on DC Shunt Motor 6. Brake Test on DC Series Motor 7. Speed Control of DC Shunt Motor 8. Hopkinson’s Test 9. Separation of Losses of DC Shunt Motor 10. Open Circuit and Short Circuit Test on 1-Φ Transformer 11. Load Test on 1- Φ Transformer 12. Sumpner’s Test 13. Three phase transformer connections 14. Scott connection | |