**17EE22P1-ELECTRO MECHANICAL ENERGY CONVERTION-I LAB**

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| **Course Category:** | Professional core | **Credits:** | 2 |
| **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:** | To make the student learn about   1. Machine principles and speed control. 2. Testing methods and analysis of performance. | |
| **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 motor. |
| CO4 | Separate the losses in a DC motor. |
| CO5 | Evaluate the performance of single phase Transformers. |
| CO6 | Know the assessment of DC machines and Transformers. |
|  | 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 | |