**17EE31P2-ELCTROMECHANICAL ENERGY CONVERSION –II LAB**

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| **Course Category:** | Professional Core | **Credits:** | 2 |
| **Course Type:** | Laboratory | **Lecture-Tutorial-Practical:** | 0-0-3 |
| **Pre-requisite:** | Electrical machines | **Sessional Evaluation:**  **External Exam Evaluation:**  **Total Marks:** | 40  60  100 |

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| **Course Objectives:** | Students undergoing this course are expected: | |
| 1. To have a basic knowledge of three phase transformers connections.  2. To study the A.C windings.  3. To study the performance characteristics of three phase induction  motor.  4. To learn equivalent circuit characteristics of single phase induction  motor.  5. To learn the basic knowledge of voltage regulation of alternators.  6. To learn the basic knowledge of synchronous motor. | |
| **Course Outcomes:** | Upon successful completion of the course, the students will able to: | |
| **CO1** | Calculate the regulation of alternators by various methods. |
| **CO2** | Know the study of A.C windings |
| **CO3** | Know the performance of A.C motors |
| **CO4** | Measure Xd & Xq parameters |
| **CO5** | Understand the parallel operation of alternators |
| **CO6** | Draw V and Inverted V curves of synchronous motor. |
| **Course Content:** | Minimum of 10 experiments to be conducted out of the following:  **LIST OF EXPERIMENTS**  1. Scott connection  2. 3-Ø transformer connections  3. Study of A.C windings  4. Circle diagram of 3-Ø induction motors  5. Equivalent circuit of 3-Ø induction motor  6. Load test on 3-Ø induction motor  7. Equivalent circuit of 1-Ø induction motor  8. Voltage regulation of an alternator using synchronous impedance and MMF method  9. Voltage regulation of an alternator using ZPF Method  10. Slip test  11. Parallel operation of two alternators  12. V and inverted V curves of synchronous motor | |