**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:** | 4060100 |

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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 connection2. 3-Ø transformer connections3. Study of A.C windings4. Circle diagram of 3-Ø induction motors5. Equivalent circuit of 3-Ø induction motor6. Load test on 3-Ø induction motor7. Equivalent circuit of 1-Ø induction motor8. Voltage regulation of an alternator using synchronous impedance and MMF method9. Voltage regulation of an alternator using ZPF Method10. Slip test11. Parallel operation of two alternators12. V and inverted V curves of synchronous motor |