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| Subject Code | Name of the Subject | L | T | P | C |
| **20EE1L01** | **BASIC ELECTRICAL AND ELECTRONICS ENGINEERING LAB****(Common to MECH , CIVIL & ROBOTICS)** | **0** | **0** | **3** | **1.5** |
| Pre-requisite | Physics’ – Electricity & Magnetism |
| Subject Category | Engineering science course |
| Semester | I  |

**COURSE OUTCOMES: *After successful completion of this course, students should be able to:***

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| CO1 | : | Acquire knowledge on electrical networks by using KVL,KCL. |
| CO2 | : | Analyze the performance characteristics and to determine efficiency of DC machines |
| CO3 | : | Understand the characteristics of AC machines |
| CO4 | : | Apply knowledge on PN junction diode , transistor and Rectifiers |

**LIST OF EXPERIMENTS**

**SECTION A: ELECTRICAL ENGINEERING:**

1. Verification of KCL & KVL.
2. Open circuit Characteristics of DC Shunt generator.
3. Swinburne’s test on DC Shunt Motor.
4. Brake test on DC Shunt motor.
5. Speed control of D.C. Shunt motor by a) Armature Voltage control b) Field flux control method
6. Open circuit and Short circuit test on a Single Phase Transformers.
7. Draw the Torque-Slip Characteristic of a Three Phase Induction Motor.
8. Regulation of Synchronous Machine using EMF Method.

**SECTION B: ELECTRONICS ENGINEERING:**

The following experiments are required to be conducted as compulsory experiments:

1. PN junction diode characteristics a) Forward bias b) Reverse bias (Cut in voltage and

 Resistance calculations)

2. Transistor CE characteristics (input and output)

3. Half wave rectifier with and without filters.

4. Full wave rectifier with and without filters.

**Any 10 Experiments has to be conducted from Section A & B**

**REFERENCE BOOKS:**

1. Department lab manual.