

BASIC ELECTRICAL AND ELECTRONICS ENGINEERING LAB

III Semester

Course Code	Category	Hours / Week			Credits	Maximum Marks		
		L	T	P		CIA	SEE	Total
A5EE71	ESC	-	-	2	1	30	70	100

COURSE OBJECTIVES

1. The theoretical concepts of KVL and KCL, Diode, Transistor are verified experimentally
2. The performance of A.C and D.C machines are studied practically
3. The efficiency and regulation of Transformer are determined experimentally
4. The fundamentals of A.C. and D.C supply are studied practically.
5. The characteristics of P-N junction diode, Zener diode, transistors and rectifiers.
6. Working principles of CRO.

LIST OF EXPERIMENTS

SECTION A: ELECTRICAL ENGINEERING:

1. Verification of KCL and KVL.
2. Magnetization characteristics of D.C. Shunt generator.
3. Speed control of DC motor.
4. Swinburne's Test on DC shunt machine.
5. Brake test on DC shunt motor.
6. OC and SC tests on Single-phase transformer.
7. Brake test on 3-phase Induction motor.
8. Regulation by an alternator by synchronous impedance method.

SECTION B: ELECTRONICS ENGINEERING:

1. PN Junction Diode Characteristics (Forward bias, Reverse bias)
2. Transistor CE Characteristics (Input and Output)
3. Study of CRO.
4. Class A Power Amplifier
5. Zener Diode Characteristics
6. Transistor CE Characteristics
7. Rectifier without Filters (Full wave & Half wave)
8. Rectifier with Filters (Full wave & half wave).

Note: Total 10 experiments are to be conducted.

(Six experiments from PART-A, Six experiments from PART-B)

Note: Ten experiments should be performed by taking at least four experiments from each lab.

Reference Books:

1. Basic Electrical Engineering by *M.S.Naidu and S.Kamakshaiah* TMH
2. Electronic Devices and circuits by *J.Millman, C.C.Halkias and Satyabrata Jit* 2ed.,

COURSE OUTCOMES

Student should able to

- 1 To analyze basic concepts to electric circuits
- 2 To apply electrical fundamentals to real time applications.
- 3 To apply electronics components to electronics circuits.
- 4 To create circuits containing basic electrical elements.
- 5 To apply electrical and electronics engineering concepts to real time applications