

II YEAR I SEM

15ABEE02- ELECTRICAL AND ELECTRONICS ENGINEERING LAB
(Common for ME and CSE)**L T P C**
0 04 2**PART – A: ELECTRICAL LAB**

1. Verification of Superposition Theorem.
2. Verification of Thevenin's Theorem.
3. Open Circuit Characteristics of DC Shunt Generator.
4. Swinburne's Test on DC Shunt Machine(Predetermination of efficiency of a given DC shunt Machine Working as Motor and Generator).
5. Brake test on DC Shunt Motor. Determination of Performance Characteristics
6. OC &SC Tests on Single phase transformer (Predetermination of efficiency and regulation at given power factors)

U. S. A.
BOS-chairman



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PART – B: ELECTRONICS LAB

Objectives: This Lab provides the students to get an electrical model for various semiconductor devices. Students can find and plot V-I characteristics of all semiconductor devices. Student learns the practical applications of the devices. They can learn and implement the concept of the feedback and frequency response of the small signal amplifier

Outcomes: Students able to learn electrical model for various semiconductor devices and learns the practical applications of the semiconductor devices

List Of Experiments:(For Laboratory Examination-Minimum of Six Experiments)

1. Identification, specifications and testing of R, L and C components (color codes), Potentiometers, Bread board, Identification and specification of active devices, Diodes, BJTs, low power JFETs, MOSFETs, UJTs, Linear and Digital ICs
2. P-N Junction Diode Characteristics
 - a. Germanium Diode (Forward bias & Reverse bias)
 - b. Silicon Diode (Forward bias only)
1. Zener Diode Characteristics
 - a. V-I Characteristics
 - b. Zener Diode act as a Voltage Regulator
2. Rectifiers (without and with c-filter)
 - a. Half-wave Rectifier
 - b. Full-wave Rectifier
3. BJT Characteristics (CE Configuration)
 - a. Input Characteristics
 - b. Output Characteristics
4. FET Characteristics (CS Configuration)
 - a. Drain (Output) Characteristics
 - b. Transfer Characteristics
5. Applications of Op-Amps:
 - a. Summing
 - b. Subtractor
 - c. Differential

Equipment required for Laboratory

1. Regulated Power supplies
2. Analog/Digital Storage Oscilloscopes
3. Analog/Digital Function Generators
4. Digital Multimeters
5. Decade Resistance Boxes
6. Decade Capacitance Boxes
7. Ammeters (Analog or Digital)
8. Voltmeters (Analog or Digital)
9. Active & Passive Electronic Components
10. Bread Boards
11. Connecting Wires
12. CRO Probes etc.