B.Tech II Year I Semester

ELECTRONIC DEVICES AND CIRCUITS LAB

Course Code: 21EC306PC **L/T/P/C 0/0/2/1**

Course Objectives

- To identify various components and testing of active devices.
- To study and operation of millimeters, function generators , regulated power supplies and CRO
- To know the characteristics of various active devices.

Part A: (Only for viva-voce Examination)

Electronic Devices Practice (in 2 lab sessions):

- Identification, Specification, testing of R,L,C components (color codes), Potentiometers, Coils, Gang Condensers, Relays, Bread Board, PCB's, Identification, Specification, testing of Active devices: Diodes, BJT, Low power JFET's, MOSFET's, Power Transistors, LED's, LCD's, SCR, and UJT.
- Study and operation of:
  - ✓ Millimeters (Analog and Digital)
  - ✓ Function Generator
  - ✓ Regulated Power Supplies
  - ✓ CRO

Part B: (For Laboratory Examination – Minimum of 10 experiments)

1. Forward and Reverse Bias V-I characteristics of PN junction Diode.
2. Zener diode V-I characteristics and Zener diode as voltage regulator.
3. Half Wave and Full wave rectifiers with and without filters.
4. Characteristics of a BJT under CE configuration and calculation of h-parameters.
5. Characteristics of a BJT under CC configuration and calculation of h-parameters.
6. Characteristics of a BJT under CB configuration and calculation of h-parameters.
7. FET characteristics under CS configuration.
8. Frequency response of CE Amplifier
9. Types of clippers at different reference voltages
10. Types of clampers at different reference voltages
11. SCR characteristics.
12. UJT characteristics and Relaxation Oscillator.

Part C: For Laboratory Examination – Minimum of 4 experiments

All these experiments are to be simulated using either MULTISIM or any other simulation package

1. Two Stage RC Coupled Amplifier
2. Voltage Series Feedback amplifier
3. Oscillator using Transistors
4. Class A power amplifier
5. Class B Complementary symmetry amplifier