

# ANURAG ENGINEERING COLLEGE

(An Autonomous Institution)

II Year B.Tech ECE I Sem

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(EC307ES) **ELECTRONIC DEVICES AND CIRCUITS LAB**

(Common to ECE, CSE, EEE)

**Prerequisites: Electronic Devices and Circuits**

**PART A: (Only for Viva-voce Examination)**

**ELECTRONIC WORKSHOP PRACTICE (in 3 lab sessions):**

1. Identification, Specifications, Testing of R, L, C, Components (Color Codes), Potentiometers, Switches (SPDT, DPDT, and DIP), Coils, Gang Condensers, Relays, Bread Boards, PCB's
2. Identification, Specification and Testing of Active Devices, Diodes, BJT's LOW power JFET's, MOSFET's, Power Transistors, LED's, SCR, UJT.
3. Study and operation of
  - + Multi-meters (Analog and Digital)
  - + Regulated Power Supplies
  - + Function Generator
  - + CRO

**PART B (For Laboratory Examination – Minimum of 10 experiments)**

1. Forward & Reverse Bias Characteristics of PN Diode.
2. Zener diode characteristics and Zener as voltage Regulator.
3. Half Wave Rectifier with & without filters.
4. Full Wave Rectifier with & without filters
5. Input & output characteristics of Transistor in CB Configuration.
6. Input & output Characteristics of Transistor in CE Configuration.
7. FET characteristics.
8. Measurement of h- parameters of transistor in CB, CE, CC configurations
9. Frequency Response of CC Amplifier.
10. Frequency Response of CE Amplifier.
11. Frequency Response of FET Amplifier (Common source).
12. SCR Characteristics
13. UJT Characteristics.

**PART C: Equipment required for laboratories:**

1. Regulated power supplies (RPS)
2. CRO's : 0-20MHZ
3. Function Generator : 0-1 MHZ
4. Multimeters
5. Decade Resistance Boxes / Rheostats
6. Decade Capacitance Boxes
7. Ammeters (Analog or Digital) : 0-20 $\mu$ A, 0-50 $\mu$ A, 0-100 $\mu$ A, 0-200 $\mu$ A, 0-10 mA
8. Voltmeters (Analog or Digital) : 0-50V, 0-100V, 0-250V
9. Electronic Components : Resistors, Capacitors, BJTs, LCDs, SCRs, UJTs,  
FETs, LEDs, MOSFETs, diodes Ge & Si type,  
Transistors NPN, PNP type