**SEMESTER-III**

**EC1307 ANALOG AND DIGITAL CIRCUITS LABORATORY L T P C (0 0 4 2)**

**LIST OF EXPERIMENTS**

## LIST OF ANALOG EXPERIMENTS:

1. Design of Regulated Power supplies
2. Frequency Response of CE, CB, CC and CS amplifiers
3. Darlington Amplifier
4. Cascode and Cascade amplifiers
5. Determination of bandwidth of single stage and multistage amplifiers
6. Analysis of BJT with Fixed bias and Voltage divider bias using Spice / Multisim
7. Analysis of FET, MOSFET with fixed bias, self-bias and voltage divider bias using simulation software like Spice/ Multisim
8. Analysis of Cascode and Cascade amplifiers using Spice/ Multisim
9. Analysis of Frequency Response of BJT and FET using Spice/ Multisim

## LIST OF DIGITAL EXPERIMENTS:

1. Design and Implementation of Half adder, Full adder, Half subtractor and Full subtractor
2. Design and implementation of BCD to Excess-3, Excess-3 to BCD, Binary to Gray and Gray to Binary code converters
3. Design and implementation of 4 bit binary Adder/ Subtractor and using IC 7483
4. Design and implementation of encoder and decoder using logic gates
5. Design and implementation of Multiplexer and De-multiplexer using logic gates
6. Construction and verification of 4 bit ripple counter and Mod-10 Ripple counters
7. Design and implementation of 3-bit synchronous up/down counter
8. Implementation of Shift Registers (i) SISO,(ii)SIPO,(iii) PIPO

## LIST OF EQUIPMENT & COMPONENTS

| Sl. No. | Description of Equipment |
|---|---|
| 1. | Standalone desktop PCs with SPICE software |
| 2. | Signal Generator /Function Generators (3 MHz) |
| 3. | Dual Regulated Power Supplies ( 0 - 30V) |
| 4. | Digital Storage Oscilloscope (50MHz) |
| 5. | Transistor/FET (BJT-NPN-PNP and NMOS/PMOS) BC107, BC547, BFW10, IN4001, IN4007 |
| 7. | Resistors, Capacitors, Inductors |
| 8. | Diodes, Zener diode, Transformers |
| 9. | IC Trainer Kit |
| 10. | Bread Boards |
| 11. | Seven segment display |
| 12. | Multimeter |
| 13. | Digital ICs<br>ICs 7400/ 7402 / 7404 / 7486 / 7408 / 7432 / 7483 / 74150 / 74151 / 74147 / 7445 / 7476/7491/ 555 / 7494 / 7447 / 74180 / 7485 / 7473 / 74138 / 7411 / 7474 |