#### SEMESTER-III

# EC1307 ANALOG AND DIGITAL CIRCUITS LABORATORY LTPC (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:**

- Design and Implementation of Half adder, Full adder, Half subtractor and Full subtractor
- 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
- Design and implementation of Multiplexer and De-multiplexer using logic gates
- 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**

SI. 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)
7.	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 ICs 7400/ 7402 / 7404 / 7486 / 7408 / 7432 / 7483 / 74150 / 74151 / 74147 / 7445 / 7476/7491/ 555 / 7494 / 7447 / 74180 / 7485 / 7473 / 74138 / 7411 / 7474