### III Year II Semester 17EE653

# L T P C 0 0 3 2

## SKILL COURSE LAB-I PCB LAYOUT DESIGN

### **Learning Objectives:**

- To make the students take up a senior design project and able to finish it very soon.
- The focus is on practical aspects of engineering necessary to complete senior design project successfully and professionally.

### Any 10 of the following experiments are to be conducted.

- 1. Design and create single sided PCB Layout for Full wave rectifier circuit.
- 2. Design and create single sided PCB Layout for Bridge rectifier.
- 3. Design and create single sided PCB Layout for Common Emitter Amplifier.
- 4. Design and create single sided PCB Layout for Amplitude Modulator.
- 5. Design and create single sided PCB Layout for Frequency Modulator.
- 6. Design and create single sided PCB Layout for Astable Multivibrator using 555 IC.
- 7. Design and create single sided PCB Layout for Half Adder using logic Gates.
- 8. Design and create single sided PCB Layout for Full Adder using Logic gates.
- 9. Design and create single sided PCB Layout for 4 Bit Binary counter using D Flip Flops.
- 10. Design and create single sided PCB Layout for 4 Bit Shift register (PIPO) using JK Flops.
- 11. Design and create single sided PCB Layout for Positive voltage regulator using 7895 and 7812 IC.
- 12. Design and create single sided PCB Layout for Analog Multiplier using 741 IC.
- 13. Design and create single sided PCB Layout for Flashing LEDs using 555 IC.
- 14. Design and create single sided PCB Layout for Fan Regulator.
- 15. Design and create single sided PCB Layout for Liquid Level Controller.

### **Learning Outcomes:**

- To learn practical technical aspects of designing and building personal PCB.
- To avoid costly mistakes in implementing senior design projects
- To use senior design lab resources properly and efficiently

#### **Reference Books:**

- 1. "Complete PCB Design Using OrCAD Capture and PCB Editor," by K.Mitzer.
- 2. "Printed Circuit Boards," by R. Khandpur.