COURSE TITLE : INDUSTRIAL ELECTRONICS & PLC LAB
COURSE CODE : 442
COURSE CATEGORY : A
PERIODS/WEEK : 5
PERIODS/SEMESTER : 90
CREDITS : 2

LIST OF EXPERIMENTS

(At least 12 experiments from IE and 4 experiments from PLC programming of the following type to be completed.)

1. VI characteristics of SCR, Triac, and Diac
2. Single Phase control using resistance triggering circuit & plot the waveform across the load and SCR. Also find the maximum firing angle.
3. Single-phase control using RC trigger circuit. Plot the waveform across the resistor load and SCR.
4. Study the UJT triggering circuit. Plot the necessary waveforms.
5. Study of the single phase control rectifier using SCR and load (resistive). Find the minimum and maximum values of firing angle.
6. Illumination control using DIAC and TRIAC
7. Study of DC motor speed control using SCR
8. Design and construct a time delay relay circuit using UJT and SCR
9. Design and construct an automatic street light controller
10. Set up an emergency lamp circuit using SCR
11. Set up a chopper and observe the waveform
12. Set up an inverter circuit using BJT and observe the waveform
13. Battery Charger circuit

PLC Programming

1. Study of PLC
2. Writing Direct On Line (DOL) starter program, compile it, download it to the PLC and executing the program by giving physical inputs
4. Logic gates
3. Stair case light
4. Counting pulses from a source and check for the pre determined value
5. Writing sample programs using jump
6. Writing sample programs using subroutine
7. Water level controller
8. Traffic light control
9. Conveyor control

10. Lift control
11. Square wave generator