COURSE TITLE   :   INDUSTRIAL ELECTRONICS & PLC LAB
COURSE CODE   : 5048
COURSE CATEGORY   : A
PERIODS/WEEK   : 4
PERIODS/SEMESTER   : 52
CREDITS   : 2

LIST OF EXPERIMENTS

On completion of the course, the student will be able:

1.0   *To understand the construction and testing of power electronics devices.*

      1.1   To plot the VI characteristics of SCR.

      1.2   To set up Single Phase control using resistance triggering circuit and

           (i) plot the waveform across the load and SCR

           (ii) find the maximum firing angle

      1.3   To set up Single-phase control using RC trigger circuit. Plot the waveform across the resistor load and SCR.

      1.4   To setup a UJT triggering circuit and Plot the waveforms.

      1.5   To setup single phase control rectifier using SCR and load (resistive) and find the minimum and maximum values of firing angle.

      1.6   To setup illumination control using DIAC and TRIAC.

      1.7   To set up DC motor speed control using SCR.

      1.8   To construct a time delay relay circuit using UJT and SCR.

      1.9   To set up an emergency lamp circuit using SCR.

      1.10   To set up a chopper and plot the waveform.

      1.11   To set up an inverter circuit using BJT and plot the waveform.

      1.12   To set up a Battery Charger circuit.

2.0   *To understand the concept of PLC programming.*

      2.1   To study various instructions in PLC programming.

      2.2   To implement logic gates using PLC.

      2.3   To implement stair case light using PLC.

2.4   To implement water level controller using PLC.

2.5   To implement traffic light controller using PLC.

2.6   To implement conveyor controller using PLC.

2.7   To implement lift controller using PLC.

2.8   To implement square wave generator using PLC.

2.9   To implement logic to count pulses from a source and check for the pre determined value using PLC.