

**COURSE TITLE** : **POWER ELECTRONICS LAB**  
**COURSE CODE** : **438**  
**COURSE CATEGORY** : **A**  
**PERIODS/WEEK** : **4**  
**PERIODS/SEMESTER** : **72**  
**CREDITS** : **2**

### **COURSE CONTENT**

1. VI characteristics of SCR, Triac, and Diac
2. Single Phase full wave voltage control using SCR – (firing angle up to  $90^0$ )-Plot waveform-across the load and SCR.
3. Single Phase full wave voltage control using SCR – (firing angle up to  $180^0$ )-Plot the waveform across the resistor load and SCR
4. Study the UJT triggers circuit. Plot the necessary waveform
5. Study of TRIAC Firing Using DIAC
6. Study of the phase control rectifier using TRIAC and load (resistive). Find the minimum and maximum values of firing angle. Observe the waveform across the load and TRIAC
7. Study of DC motor speed control using SCR
8. Design and construct an automatic street lamp-using LDR
9. Set up an emergency lamp circuit using SCR
10. Set up a chopper and observe the waveform using SCR
11. Set up an inverter circuit using BJT and observe the waveform
12. Battery Charger circuit