33084- POWER ELECTRONICS PRACTICAL

DETAILED SYLLABUS

OBJECTIVES

Construct and test DC-DC, DC-AC, AC-DC, AC-AC converters using power switching devices and control circuits for the same.

LIST OF EXPERIMENTS

1. Construct the Line synchronized Ramp trigger circuit using UJT with AC load to measure firing angles.
2. Construct Lamp control circuit using DIAC – TRIAC to measure various output voltage for firing angles.
3. Construct and test the SCR commutation circuits (Class B & Class D)
4. Construct and test the Single phase semi controlled bridge with R- Load
5. Construct and test the Single phase fully controlled bridge with RL- Load
6. Construct and test the Half wave controlled rectifier with R- Load.
7. Construct and test the DC chopper control circuit using thyristor (any class).
8. Construct and test the step up chopper.
9. Design the PWM based step down DC chopper using MOSFET/IGBT.
10. Construct and test the Single phase Single pulse / Sinusoidal PWM inverter using MOSFET/IGBT.
11. Construct and test the SMPS using MOSFET/IGBT.
12. Construct and test the open loop speed control circuit for DC shunt motor
13. Construct and test the control circuit using TRIAC for Universal motor.
14. Construct and test the Open loop speed control of Single phase AC motor.
15. Construct and test the Single phase parallel inverter using MOSFET/IGBT
16. Construct and test the Single phase to single phase cyclo converter.