

Electrical and Electronics Engineering Department

Power Electronics Lab

Paper Code(s): EEC-357

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Course Outcome(CO)	
At the end of the course, the student will be able to:	
CO.EEC 357. 1	To understand various power electronics devices, their characteristics and uses.
CO.EEC 357. 2	To analyze or design phase controlled converter and choppers.
CO.EEC 357. 3	To describe AC-AC voltage controller and cycloconverter and their industrial application.
CO.EEC 357. 4	To Explain square wave, square wave, PWM and multi-level inverter.

List of Experiments:

1. To study and analyze V-I characteristics of SCR and TRIAC
2. To study the switching characteristics of MOSFET and IGBT.
3. To study R and RC and UJT based firing circuits using SCR
4. To study single phase Semi-converter and Full converters feeding R and RL load
5. To study A.C phase control using SCR (half and full wave) using DIAC application.
6. To study single-phase cyclo- converter feeding R and RL. load.
7. To study the operation and duty cycle control of BUCK and BOOST converter feeding 'R' loads.
8. To study the operation and duty cycle control of Type- C chopper
9. To study the THD in operation of single phase Square wave and Quasi square wave Inverter
10. To study the operation of SPWM Inverter.

List of Experiments		
Exp No	CO	Experiment
Exp 1	CO1	To study and analyze V-I characteristics of SCR and TRIAC
Exp 2	CO1	To study the switching characteristics of MOSFET and IGBT
Exp 3	CO1	To study R and RC and UJT based firing circuits using SCR
Exp 4	CO2	To study single phase Semi-converter and Full converters feeding R and RL load
Exp 5	CO2	To study A.C phase control using SCR (half and full wave) using DIAC application.
Exp 6	CO3	To study single-phase cyclo- converter feeding R and RL. load
Exp 7	CO2	To study the operation and duty cycle control of BUCK and BOOST converter feeding 'R' loads.
Exp 8	CO2	To study the operation and duty cycle control of Type- C chopper
Exp 9	CO4	To study the THD in operation of single phase Square wave and Quasi square wave Inverter
Exp 10	CO4	To study the operation of SPWM Inverter.
Extra 1	CO1	To study various Commutation techniques of SCR.
Extra 2	CO2	To study the self-commutation of the single SCR using parallel capacitor (Morgan's chopper).