

COURSE CODE: 1151EE308	COURSE TITLE: POWER ELECTRONICS & DRIVES LAB	L 0	T 0	P 2	C 1							
COURSE CATEGORY:												
Program Core												
PREAMBLE :												
This lab introduces the concept of power control and power conversion techniques and helps to control DC motors and Induction motors.												
PREREQUISITE COURSES:												
Electronic Devices & Circuits Lab												
RELATED COURSES:												
Power System Simulation lab												
COURSE EDUCATIONAL OBJECTIVES :												
The objectives of the course are to make the students,												
<ul style="list-style-type: none"> • To make the students aware of different power conversion techniques. • To understand the various control methods for machines 												
COURSE OUTCOMES :												
Upon the successful completion of the course, students will be able to:												
CO Nos.	Course Outcomes				Knowledge Level (Based on revised Bloom's Taxonomy)							
C01	To draw the characteristics of various power switching devices				S3							
C02	To design single phase and three phase rectifiers				S3							
C03	To design the power circuit and control circuit of single phase and three phase inverters.				S3							
C04	To design DC-DC converters and implement a control.				S3							
C05	To design AC to AC converters and their controllers.				S3							
CORRELATION OF COs AND POs												
Course Out comes	Programme Outcomes											
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO 11	PO 12
CO1	M		M	M							M	M
CO2	H		H	H							H	H
CO3	M		M	M							M	M
CO4	M	M		M					M		M	M
CO5	H	H		H					H		H	H
CO6	M		M	M							M	M
COURSE CONTENT:												
LIST OF EXPERIMENTS												
<ol style="list-style-type: none"> 1. VI Characteristics of SCR, IGBT & MOSFET. 2. Single phase full converter feeding R,RL,RLE load. 3. Single phase semi converter feeding R,RL,RLE load. 												

4. Single phase dual converter.
5. MOSFET based step up and step down chopper
6. IGBT based single phase PWM inverter.
7. Three phase IGBT based PWM inverter control of induction motor.
8. Single phase AC voltage controller
9. Single phase cycloconverter
10. Three phase full converter.
11. Series resonant converter.