

Power Electronics Lab

Course Code	19EE3652	Year	III	Semester	II
Course Category	Program Core	Branch	EEE	Course Type	Lab
Credits	1.5	L-T-P	0-0-3	Prerequisite	ECA Lab (19EE3351) ED&AC Lab(19EE3352)
Continuous Internal Evaluation:	25	Semester End Evaluation:	50	Total Marks:	75

Course Outcomes

Upon successful completion of the course, the student will be able to

CO1	Study and observe the characteristics of SCR and IGBT.(L2)
CO2	Analyse theoretically and practically Rectifiers.(L4)
CO3	Analyse theoretically and practically inverters. (L4)
CO4	Analyse theoretically and practically AC to AC converters. (L4)
CO5	Analyse the operation of Choppers. (L4)

Contribution of Course Outcomes towards achievement of Program Outcomes & Strength of correlations (3: High, 2: Medium, 1: Low)

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	2	2		2								1	3	2
CO2	2	2		2								1	3	2
CO3	2	2		2								1	3	2
CO4	2	2		2								1	3	2
CO5	2	2		2								1	3	2

Syllabus

Expt. No.	Contents	Mapped CO
PART-A (Any Eight Experiments)		
1	Study of characteristics of SCR	CO1
2	Study of characteristics of IGBT	
3	Single phase fully controlled bridge converter with R and RL loads	CO2
4	Three phase half controlled bridge converter with RL-Load	
5	VSI fed three phase induction motor drive	CO3
6	Single phase Series inverter	
7	Single phase AC Voltage controller with R and RL loads	CO4
8	Single phase cyclo-converter with R and RL loads	
9	IGBT based four quadrant chopper controlled DC motor drive	CO5
10	Buck Converter	

PART-B: (Any Two Experiments)		
11	Single phase dual converter with R, RL and RLE loads	CO2
12	Boost Converter	CO5
13	Single phase Parallel inverter	CO3
14	Single phase bridge inverter	
15	Cascaded H Bridge inverter	
Learning Resources		
Text Books		
<ol style="list-style-type: none"> 1. P.S. Bhimbra, 'Power Electronics', 5th edition, Khanna Publications 2. M. H. Rashid, 'Power Electronic Circuits Devices and Applications', 4th edition, Pearson. 		