POWER ELECTRONICS LAB

Course Code	20EE3552	**Year**	III	**Semester**	I
Course Category	Professional core	**Branch**	EEE	**Course Type**	Lab
Credits	1.5	**L-T-P**	0-0-3	**Prerequisites**	ED&AC Lab
Continuous Internal Evaluation	15	**Semester End Evaluation**	35	**Total Marks**	50

Course Outcomes	
Upon successful completion of the course, the student will be able to	
CO1	Study and observe the characteristics of SCR MOSFET and IGBT.(L3)
CO2	Analyze theoretically and practically Rectifiers and Choppers. (L4)
CO3	Analyze theoretically and practically inverters. (L4)
CO4	Analyze theoretically and practically AC to AC converters.(L4)
CO5	Conduct experiments as a **team / individual** by using equipment available in the laboratory
CO6	Make an effective **report** based on experiments

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	3			3								2	2	1
CO2		3		3		1	1					2	2	1
CO3		3		3		1	1					2	2	1
CO4		3		3		1	1					2	2	1
CO5									3				2	1
CO6										3			2	1

Syllabus		
Expt. No.	Contents	Mapped CO
	PART-A(Any Eight Experiments)	
1	Study of characteristics of SCR	CO1
2	Study of characteristics of MOSFET	CO5
3	Study of characteristics of IGBT	CO6
4	Single phase fully controlled bridge converter with R and RL loads	CO2 CO5
5	Three phase half controlled bridge converter with RL-Load	CO6
6	VSI fed three phase induction motor drive	CO3
7	Single phase Series inverter	CO5 CO6
8	Single phase AC Voltage controller with R and RL loads	CO4
9	Single phase cyclo-converter with R and RL loads	CO5

		CO6
10	IGBT based four quadrant chopper controlled DC motor drive	CO2
11	Buck Converter	CO5 CO6
PART-B:(Any Two Experiments)		
12	Single phase dual converter with R, RL and RLE loads	CO2 CO5 CO6
13	Boost Converter	CO2 CO5 CO6
14	Single phase Parallel inverter	
15	Single phase bridge inverter	CO3
16	Cascaded H Bridge inverter	CO5 CO6

Learning Resources
Text Books
1. P.S.Bhimbra,'PowerElectronics',5th edition, Khanna Publications,2018. 2. M.H. Rashid,' Power Electronic Circuits Devices and Applications',4th edition, Pearson,2017.