

Sardar Patel Institute of Technology Bhavan's Campus, Munshi Nagar, Andheri (West), Mumbai-400058-India

(Autonomous Institute Affiliated to University of Mumbai)

Course	Course Name	Teaching Scheme (Hrs/week)			Credits Assigned			
Code		L	Т	Р	L	Т	Р	Total
				2			1	1
EXL703	Power Electronics –II Laboratory	Examination Scheme						
		ISE			ESE			Total
				Prac	ctical	0	ral	
		4	0	-	-		20	60

Pre-requisite	Course	e Codes EXC703 (Power Electronics - II)					
After successful completion of the course, student will be able to							
Course Outcomes	CO1	Make use of simulation tool to simulate power electronic system and					
		comment on its performance					
	CO2	Analyze converters considering their practical issues					
	CO3	Construct model of DC-DC converters using different techniques					
	CO4	Analyze the given DC and AC drives					

Exp. No.	Experiment Details		Marks	
1	Evaluation of the effect of source Inductance on performance of Half wave controlled rectifier.		5	
2	Evaluation of the effect of source Inductance on performance of Full wave controlled rectifier.		5	
3	Analysis of Space Vector Modulated 3 phase VSI using Simulation software.		5	
4	Analysis of 3 phase PWM VSI using Simulation software.		5	
5	Analysis of Semi-Converter Drive used for driving separately excited DC Shunt Motor		5	
6	Analysis of Full-Converter Drive used for driving separately exciter DC Shunt Motor.		5	
7	Speed control analysis of 3 phase induction motor using V/F method.		5	
8	Feedback control of Buck/Boost converter using PMLK.	3	5	
Total Marks				

References:

1. M. Rashid, Power Electronics: Circuits, Devices, and Applications, PHI, 3rd Edition.



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2. By M. D. Singh, K. B. Khanchandani, Power Electronics, Tata McGraw Hill, 2nd Edition.

3. Mohan, Undeland and Riobbins, Power Electronics: Converters, Applications and Design, Wiley (Student Edition), 2nd Edition.

4. P. S. Bimbhra, Power Electronics, Khanna Publishers, 2012.

5. R. W. Erickson, D. Maksimovic, Fundamentals of Power Electronics, Springer, 2nd Edition.

6. J. P. Agrawal, Power Electronics Systems: Theory and Design, Pearson Education, 2002.

7. S. Bacha, I. Munteanu and A. Bratcu, Power Electronic Converters: Modeling and Control, Springer-Verlag, 2014.

8. H. Sira-Ramírez, R. Silva-Ortigoza, Control Design Techniques in Power Electronics Devices, Springer-Verlag, 2006