Sardar Patel Institute of Technology

Bhavan's Campus, Munshi Nagar, Andheri (West), Mumbai-400058-India
(Autonomous Institute Affiliated to University of Mumbai)

Course Code	Course Name	Teaching Scheme (Hrs/week)			Credits Assigned			
		L	T	P	L	T	P	Total
EXL801	CMOS VLSI Design Laboratory	--	--	2	--	--	1	1
		Examination Scheme						
		ISE		ESE				Total
				Practical		Oral		
		40		--		20		60

Pre-requisite Course Codes	EXC801 (CMOS VLSI Design)	
After successful completion of the course, student will be able to		
Course Outcomes	CO1	Analyze tradeoffs in CMOS analog circuits after successful simulations
	CO2	Compose SPICE code and simulate MOSFET based analog circuits
	CO3	Validate characteristics of MOSFET based analog circuits via simulations
	CO4	Solve the issues via troubleshooting the CMOS analog circuit

Exp. No.	Experiment Details	Ref.	Marks
1	Analysis of MOSFETs for analog performance	1,3	**05**
2	Design and simulate various types of current mirror circuits	1,3	**05**
3	Design and simulate various types of single stage amplifiers	1,3	**05**
4	Design and simulate differential amplifier	1,3	**05**
5	Design and simulate operational transconductance amplifier	2,3	**05**
6	Design and simulate switch capacitor circuits	1,3	**05**
7	Design and simulate various types of oscillators	1,3	**05**
8	Generate layout for the simple and cascode current mirror	1,3	**05**
	Total Marks		**40**

References:

[1] R. Jacaob Baker, Harry W. Li, David E. Boyce, "CMOS Circuit Design, Layout,and Stimulation", Wiley, Student Edition.

[2] P. E. Allen and D. R. Holberg, "CMOS Analog Circuit Design", Oxford University Press, Third Edition

[3] LTSPICE Manual.