



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
ELL33	Digital Circuits Lab	--	--	2	--	--	1	1
		Examination Scheme						
		ISE		ESE		Total		
				Practical	Oral			
		40		10		10		60

Pre-requisite Course Codes		EL33 (Digital Circuits)
After successful completion of the course, student will be able to		
Course Outcomes	CO1	Follow the given instructions for performing an experiment on the breadboard
	CO2	Construct logic circuits using gate to realize given function
	CO3	Construct logic circuits using MSI ICs to realize given function
	CO4	Validate the design of combinational and sequential logic circuits by hardware implementation
	CO5	Test and troubleshoot given logic circuits using testing instruments
	CO6	Develop an application using concepts of digital circuits

Exp. No.	Experiment Details	Ref.	Marks
1	To implement the combinational logic for given function using basic gates/MSI ICs.	1,2	5
2	To implement TTL and CMOS logic family	1,2	5
3	To implement 4-bit, 5-bit and 8 bit comparator using given MSI	1,2	5
4	To design implement gate level multiplexers and MSI multiplexers	1,2	5
5	To design and implement gate level and MSI circuits of flip-flops	1,2	5
6	To design Mod 4 synchronous up/down counter using JK flip-flop	1,2	5
7	To asynchronous counters, synchronous counters and shift register using given MSI.	1,2	5
8	Mini-Project: Design and implement an application using digital circuit concepts.	1,2	5
Total Marks			40



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References:

- [1] Datasheets and application notes of LSI and MSI circuits.
- [2] R. P. Jain and M. M. S. Anand "Digital Electronics Practice Using Integrated Circuits,"
TataMc Graw Hill Education