



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
EXL701	Embedded System Design Laboratory	--	--	2	--	--	1	1
		Examination Scheme						
		ISE	ESE		Total			
			Practical	Oral				
		40	--	20	60			

Pre-requisite Course Codes		EXC701 (Embedded System Design)
After successful completion of the course, student will be able to		
Course Outcomes	CO1	Set-up simulation environment for programming several microcontroller architectures
	CO2	Interface various peripherals with the microcontrollers
	CO3	Compose procedure for initialization of internal peripherals of different microcontroller architectures
	CO4	Design and develop embedded system applications
	CO5	Test and debug embedded system applications
	CO6	Perform in a team to implement an embedded application

Exp. No.	Experiment Details	Ref.	Marks
1	Programming of NXP LPC1114 using ARMmbed Compiler.(led blink, counter, Pot)	1	5
2	Interfacing of NXP LPC1114 (7 segment display, traffic signal).	1	5
3	Programming of MSP430 Launchpad (led blink, counter, interrupt, and timer).	2	5
4	Programming of PSOC CY8CKIT- 030 PSOC 3 (Led blink, counter)	3	5
5	Programming of PSOC CY8CKIT- 050 PSOC 5 (LCD interfacing, ADC)	3	5
6	Programming of PSOC CY8CKIT- 050 PSOC 5 (Capsense)	3	5
7	RTOS Programming (Free RTOS).	4	5
8	Programming of C2000	5	5
Total Marks			40

References:

- [1] <https://developer.mbed.org/>
- [2] MSP430 user Manual
- [3] PSoC user Manual
- [4] DR.K.V.K.K. Prasad - Embedded / real time system, Dreamtech
- [5] C2000 user Manual