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
ESL11	Basic Electrical and Electronics Engineering Lab	--	--	2	--	--	1	1
		Examination Scheme						
		ISE			ESE			Total
					Practical		Oral	
		40			--		20	60

Pre-requisite Course Codes		
Course Outcomes	CO1	Compute electrical parameters for the given circuit using network theorem.
	CO2	Verify the resonance phenomenon for a given RLC circuit.
	CO3	Implement amplifier and oscillator using FET.
	CO4	Design amplifier for the given gain using operation amplifier .
	CO5	Compare astable, monostable and bistable multivibrator circuit using given IC.

Exp. No.	Experiment Details	Ref.	Marks
1	Verification of Kirchoff's law by comparing a simulation result and by implementing the circuit on breadboard.	1,2	5
2	Verification of superposition theorem by comparing a simulation result and by implementing the circuit on breadboard.	1,2	5
3	Verification of maximum power transfer theorem by comparing a simulation result and by implementing the circuit on breadboard.	1,2	5
4	Obtain bandwidth of the given RLC circuit by comparing a simulation result and by implementing the circuit on breadboard.	1	5
5	Obtain the given gain using a BJT amplifier circuit and observe input and output waveforms. Write a C program for BJT amplifier circuit.	1	5
6	Measure the oscillator frequency for a RC phase shift oscillator. Compare the oscillator circuit using hartley and colpitts oscillator circuit	1	5
7	Obtain the given gain using an OPAMP in inverting and non inverting mode.	3	5
8	Design a timer circuit to switch on LED after a given time duration also modify the circuit for different on time of the LED.	3	5
		Total Marks	40

References:

[1] Joseph A Edminister, "Schaum's ouline of theory and problems of electric circuits" Tata McGraw Hill, 2nd edition

[2] B.L.Theraja "Electrical Technology" Vol-I S. Chand Publications, 23rd ed. 2003.

[3] M. B. Patil, V. Ramanarayanan, V. T. Ranganathan, "Simulation of Power Electronics Circuits", Narosa publication