



# 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	
ETL503	Communication Engineering Laboratory- II	--	--	2	--	--	1	1	
		Examination Scheme							Total
		ISE		ESE			Total		
				Practical	Oral				
		40	10		10		60		

<b>Pre-requisite Course Codes</b>	ETC 504: RF Modeling ETC 505: Integrated circuits	
After successful completion of the course, student will be able to		
<b>Course Outcomes</b>	CO1	Ability to program and analyze the experiments in different softwares. (Softwares used: MATLAB, Pspice, IE3D )
	CO2	Ability to perform experiments based on applications of Integrated Circuits.
	CO3	Ability to program and analyze the various concepts.
	CO4	Ability to perform experiments based on applications of Integrated Circuits.
	CO5	To be able to improve their debugging skill.
	CO6	To be able to document the experiment.

Exp. No.	Experiment Details	Ref.	Marks
1	Analyse the High frequency behaviour of Resistance, Inductor and Capacitor using Matlab/Scilab.		5
2	Design and simulate BPF using circuit objects from RF toolbox in Matlab.		5
3	Design and test the performance of integrator and differentiator using Operational Amplifier and trace out the output waveforms for the given inputs.		5
4	Find the Schmitt trigger characteristic by using IC741 and compare theoretical and practical values of the upper threshold voltage and lower threshold voltage.		5
5	Design practical applications of OPAMP a) Instrumentation amplifier b) Zero crossing Detector		5
6	Design Astable Multivibrator using IC555.		5
7	Design Low voltage Regulator using IC 723.		5
8	Design and simulate the Sallen – key second order LPF and HPF frequency response using PSpice.		5
9	Analyse the Radiation pattern and measure its Beamwidth and Bandwidth of different antennas.		5



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	a) Half wave Dipole antenna b) Folded Dipole antenna c) Yagi UDA 5 element antenna d) Log- Periodic antenna.		
<b>10</b>	Design and simulate rectangular patch microstrip antenna using IE3D.		<b>5</b>
<b>11</b>	Design and simulate microstrip line filter design.		<b>5</b>
<b>*Any 08 Experiments to be performed.</b>		<b>Total Marks</b>	<b>40</b>

## References

As per recommended by faculty.