Signals and Systems Lab

Course Code	**23EC3451**	**Year**	II	**Semester**	II
Course Category	PC	**Branch**	ECE	**Course Type**	Lab
Credits	1.5	**L-T-P**	0-0-3	**Prerequisites**	Nil
Continuous Internal Evaluation:	30	**Semester End Evaluation:**	70	**Total Marks:**	100

Course Outcomes	
Upon successful completion of the course, the student will be able to	
CO1	Analyze various types of signals and sequences.
CO2	Apply convolution and correlation operations on different signals
CO3	Analyze various circuits in the time and transform domains using transient analysis methods.
CO4	Analyze various networks by applying transformation techniques, mesh analysis, nodal analysis and network theorems
CO5	Determine the characteristics of different two port networks

Contribution of Course Outcomes towards achievement of Program Outcomes & Strength of correlations (3:High, 2: Medium, 1:Low)

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1		3											3	
CO2	3												3	
CO3		2											2	
CO4		2											2	
CO5					2								2	
CO6										3			3	
Avg.,	3	3	3		2					3			3	

Any Ten Experiments		
Expt. No.	**Contents**	**Mapped CO**
1	Generation of Various Signals and Sequences (Unit impulse, Unit step, Square, Triangular, Sinusoidal)	CO1
2	Operations on Independent variables	CO1
3	Operations on Systems	CO1
4	Convolution of Signals and Sequences.	CO1,CO2
5	Fourier Transform of a given signal	CO1, CO4
6	Auto Correlation and Cross Correlation of Signals and Sequences	CO1, CO2

Note: Minimum of Ten Experiments has to be performed

Learning Resources
Text Books
1. Alan V. Oppenheim, Alan S. Wilsky with S.Hamid Nawab, 'Signals and Systems', 2nd Ed., Pearson Education, 1997
Reference Books
1. Simon Haykin, Barry Van Veen, 'Signals and Systems', 2nd Ed., Wiley Student Edition. 2. Bhagawandas P. Lathi, 'Linear Signals and Systems', Oxford University Press, 2009. 3. Luis Chaparro, Signals and Systems using MATLAB, Kindle Edition
e- Resources & other digital material
1. http://www.cdeep.iitb.ac.in/nptel/Electrical%20&%20Comm%20Engg/Signals%20and%20System/TOC-M1.htm 2. http://www.cdeep.iitb.ac.in/nptel/Electrical%20&%20Comm%20Engg/Signals%20and%20System/Course%20Objective.htm. 3. http://www.stanford.edu/~boyd.ee102 4. http://www.ece.gatech.edu/users/bonnie/book 5. http://ocw.mit.edu 6. https://www.tutorialspoint.com/network_theory/network_theory_quick_guide.htm 7. https://nptel.ac.in/courses/108/105/108105159/