



Techno India NJR Institute of Technology
Academic Administration of Techno NJR Institute
Lab Deployment

Name of Faculty: Dr. Vivek Jain

Subject Code: 3EC4-23

Subject Name: Signal Processing Lab

SEM: III

Department: Department of Electronics and Communication Engineering

Total No. of Labs Planned: 9

COURSE OUTCOMES

At the end of this course students will be able to:

CO 1 Able to generate different Continuous and Discrete time signals.

CO 2 Understand the basics of signals and different operations on signals.

CO 3 Develop simple algorithms for signal processing and test them using MATLAB

CO 4 Able to generate the random signals having different distributions, mean and variance.

CO 5 Design and conduct experiments, interpret and analyze data and report results.

Labs No.	Name of Experiment (Simulate using MATLAB environment)
1	Generation of continuous and discrete elementary signals (periodic and non periodic) using mathematical expression.
2	Generation of Continuous and Discrete Unit Step Signal.
3	Generation of Exponential and Ramp signals in Continuous & Discrete domain.
4	Continuous and discrete time Convolution (using basic definition).
5	Adding and subtracting two given signals. (Continuous as well as Discrete signals)

For Techno India N.J.R. Institute of Technology
पंकज कुमार पोवाल
Dr. Pankaj Kumar Porwal
(Principal)

6	To generate uniform random numbers between (0, 1).
7	To generate a random binary wave.
8	To generate and verify random sequences with arbitrary distributions, means and variances for following: (a) Rayleigh distribution (b) Normal distributions: $N(0,1)$. (c) Gaussian distributions: $N(m, x)$
9	To plot the probability density functions. Find mean and variance for the above distributions

TEXT/REFERENCE BOOKS

1. Signals and Systems, A.V. Oppenheim, A.S. Willsky and I.T. Young, Prentice Hall, 1983.
2. Signals and Systems - Continuous and Discrete, R.F. Ziemer, W.H. Tranter and D.R. Fannin, 4th edition, Prentice Hall, 1998.
3. Circuits and Systems: A Modern Approach, Papoulis, HRW, 1980.
4. Signal Processing and Linear Systems, B.P. Lathi, Oxford University Press, c1998.

For Techno India NJR Institute of Technology
 पंकज पौरवाल
 Dr. Pankaj Kumar Porwal
 (Principal)