

IV Year - I Semester

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DIGITAL SIGNAL PROCESSING LABORATORY

List of the Experiments / programs

To Student has to perform at least FOUR Experiments in each part

PART-1(SIGNALS)

- 1) Generation of discrete time signals for discrete signals
- 2) To verify the Linear Convolution
 - a) Using MATLAB
 - b) Using Code Composer Studio(CCS)
- 3) To verify the Circular Convolution for discrete signals
 - a) Using MATLAB
 - b) Using Code Composer Studio(CCS)
- 4) To Find the addition of Sinusoidal Signals
- 5) To verify Discrete Fourier Transform(DFT) and Inverse Discrete Fourier Transform(IDFT)
 - a) Using MATLAB
 - b) Using Code Composer Studio(CCS)
- 6) Transfer Function Stability Analysis: using pole-zero plot, bode plot, Nyquist plot, z-plane plot.

PART-2 (FILTERS)

- 7) Frequency Response of IIR low pass Butterworth Filter
- 8) Frequency Response of IIR high pass Butterworth Filter
- 9) Frequency Response of IIR low pass Chebyshev Filter
- 10) Frequency Response of IIR high pass Chebyshev Filter
- 11) Frequency Response of FIR low pass Filter using Rectangle Window
- 12) Frequency Response of FIR low pass Filter using Triangle Window

PART – 3(IMAGE PROCESSING)

- 13) An image processing in a false contouring system
- 14) To generate the histogram equalization to the image
- 15) To verify the Normalized Cross Correlation to the addition of noise and removal of noise using filters to an image.
- 16) Compute the edge of an image using spatial filters.
- 17) Perform the image motion blur and calculate PSNR to the noise image and also noise free image.
- 18) To verify the PSNR to the Second order Decomposition of Discrete Wavelet transforms and to the reconstructed image using inverse Discrete Wavelet transform