

| S/N | Name of the Experiment |
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| 01 | Introduction to MATLAB and its basic commands |
| 02 | To develop programs for generating elementary signal functions like unit sample, unit step, exponential, ramp sequences, sinusoidal, random and periodic signal. |
| 03 | Generation of basic signals and illustration of sampling process using Matlab |
| 04 | Introduction to different operations on sequences |
| 05 | Understanding of aliasing effect of discrete time signals in MATLAB. |
| 06 | To develop the program for finding the convolution between two sequences |
| 07 | To develop the program for finding the Correlation of two sequences. |
| 08 | To develop the program for finding the DFT. |
| 09 | To develop the program for finding the magnitude and phase response of system described by system function $H(s)$. |
| 10 | To find the frequency response of analog LP/HP filter. |
| 11 | To develop the program for designing Low pass Type 1 Chebyshev filter having passband defined from 0-40 Hz and stopband in the range of 150-500Hz having less than 3 dB of ripple in the passband and atleast 60dB of attenuation in the stopband. |
| 12 | Design FIR filter using windowing technique. |
| 13 | Design IIR filter |
| 14 | Power density spectrum of a sequence. |
| 15 | he objective of this program is To Perform upsampling on the Given Input Sequence. |
| 16 | The objective of this program is To Perform Decimation on the Given Input Sequence. |
| 17 | Analysis of Z transform and Inverse Z Transform. |
| 18 | <p>Application on speech signal processing (students will prepare project based on this experiment)</p> <p>(b) Show the effect of sampling, e.g. over, under, aliasing effect</p> <p>(c) Show the effect of filtering- low pass, windowing</p> <p>(d) Reconstruction of signal</p> <p>(e) Add white and color noise to speech at particular SNR- show waveform, spectrogram, etc</p> <p>(f) Show the FFT with changing different parameters.</p> <p>(g) Show the effect of filters on noisy speech- adaptive</p> <p>(h) Calculation of SNR</p> |
| 19 | Experiment with MDA DSP kit.. |