

Experiment No. 9

Title: Design and implementation of FIR filter to meet given specifications.

Objectives:

- 1) To design a FIR low pass filter with the required cut-off frequency using Rectangular and Hamming window technique.
- 2) To compare the performance of window functions.

MATLAB Simulations:

Write a MATLAB code to design a FIR LPF of length 25 and cut-off frequency of $\pi/2$ radians, using (i) Rectangular and (ii) Hamming window. Plot the magnitude response of the designed FIR filter using different windows.

[Useful MATLAB functions: *rectwin*, *hamming*]

Conclusion:

- 1) Write the steps to design FIR filter for given specifications using window method.
- 2) Compare the magnitude response of the designed FIR filter using different windows.