Digital Signal Processing Lab

Experiment 15: Anti-aliasing and anti-imaging Filter

I Pre-Lab Questions:

1. What is meant by anti-aliasing filter?

Soln: It is used to reduce bandwidth of a signal to satisfy the Nyquist theorem.

2. What is the filter used for anti-aliasing?

Soln: Anti-aliasing filter is used.

3. Mention the advantages of anti-aliasing filter?

Soln: It cuts off any higher order frequency content in the input signal as any frequencies higher than Nyquist frequency would be advised.

II Post-lab Questions:

1. What is an anti-imaging filter?

Soln: It is used to construct a smooth analog signal from a digital input, like any sampled data system device.

2. Difference between anti-aliasing and anti-imaging filter

Soln: An anti-imaging filter is used to ensure that the frequencies of interest are accurately reproduced without excess energy, while anti-aliasing is the reverse.

3. Mention the advantages of anti-imaging filter.

Soln: It prevents the signals with frequencies greater than the sampling rate from being digitized.