

## Assignment 2

Marks (Total 10)

- 1 Q1. Prove the validity of (4.6-3) and (4.6-4).
- 2 Q2. Problem 4.20: (c), (e), (f), (h), and (i) on Page 306.
- 7 Q3. Design a mini project to demonstrate Lowpass/Highpass Filtering

In your mini project, you would need to implement the Ideal, Butterworth, and Gaussian lowpass and highpass filters with MATLAB programs.

Please design your experiments for the performance comparisons of these three different types of lowpass and highpass filters, respectively.

As a **minimum** requirement, your typed report should provide your thoughts and reasons on the experiments you designed, your observations and explanations on the experimental results, and your remarks and conclusions.