ASSIGNMENT – 1

DIGITAL SIGNAL PROCESSING LAB

Marks: 10

1. Write a Scilab code to generate a signal that is the sum of three sine waves with different frequencies 5 Hz, (*birthday*) Hz, and (*birthday* + 5) Hz. Plot the signal. [2 marks]
2. Write a Scilab code to generate a composite signal by adding a sine wave of frequency (*birthday*) Hz and an exponential decay signal $e^{-0.(birthday)t}$. Plot the composite signal. [2 marks]
3. Write a Scilab code to generate a square with a) duty cycle = 50% b) duty cycle = 90% c) duty cycle = (*birthday*)% [2 marks]
4. Write a Scilab code to generate a carrier signal (cosine wave) with a frequency of 20 Hz and a modulating signal (sine wave) with a frequency of 2 Hz. Perform amplitude modulation and plot the resulting modulated signal. [2 marks]
5. Write a MATLAB code to generate u(n) – u(n-5). Plot the signal. [2 marks]