Bangladesh University of Engineering and Technology

Department of Electrical and Electronic Engineering (EEE)

Course No.: EEE 312   **Section:** A2

Experiment No. 2

Assignment – 2 (Part A)

Instructions: Include your Matlab code snippets and all necessary

command window output+plots in your report.

1. Consider the following signals and answer the questions using plots below:

$y_1(n) = 4u(n-2) - 4u(n+3)$	$y_3(n) = \sum_{k=0}^{5} 2^{-k}\delta(n-k)$
$y_2(n) = r(n+2) - r(n) + u(n-2)$	$y_4(n) = \{2, 0, 3, -1, 0.5, -1\}$ $\uparrow$
$s_1(n) = $ *Your Voice Signal*	$s_2(n) = $ *Your Partner's Voice Signal*

a) $y_1(n) + y_2(n) = ?$ b) $y_1(n) - y_3(n) = ?$

c) $y_1(-n) = ?$ d) $y_2\left(\frac{n}{2}\right) = ?$

e) $s_1\left(\frac{n}{2}\right) = ?$ f) $s_2\left(\frac{n}{3}\right) = ?$

g) $y_3(n-5) = ?$ h) $y_4(n-1) + y_4(n+1) = ?$

i) Odd and even part of $y_3(n)$ j) Odd and even part of $y_4(n)$

k) Odd and even part of $s_2(n)$ l) Odd and even part of $s_1(n)$

Listen to the signals generated in (e), (f), (k), (l) and comment on how they sound different from the original voice signals.