



ISRA UNIVERSITY

Islamabad Campus

Department of Electrical Engineering
Program: B.E. (Electrical)
Semester - Fall 2018

EL 313- Signal & Systems

Assignment – 5

Marks: 20

Due Date: 11/01/2019

Handout Date: 31/12/2018

Question # 1:

A particular LTI system is described by the difference equation:

$$y[n] + \frac{1}{4}y[n - 1] - \frac{1}{8}y[n - 2] = x[n] - x[n - 1]$$

Find the impulse response of the system.

Question # 2:

Determine the z-transforms of the following two signals. Also sketch the pole-zero plot and ROC for each signal:

1. $x_1[n] = \left(\frac{1}{2}\right)^n u[n]$

2. $x_2[n] = -\left(\frac{1}{2}\right)^n u[-n - 1]$

Good Luck