



ISRA UNIVERSITY

Islamabad Campus

Department of Electrical Engineering

Program: B.E. (Electrical)

Semester – Spring 2016

EL-322 Digital Signal Processing

Assignment – 1

Marks: 10

Due Date: 30/03/2016

Handout Date: 23/03/2016

Question # 1:

For each of the following systems, determine whether the system is Stable, Causal, Linear, Time Invariant and Memory less:

1. $T(x[n]) = ax[n] + b$
2. $T(x[n]) = x[-n]$

Question # 2:

Find the frequency response $H(e^{j\omega})$ of the linear time-invariant system whose input and output satisfy the difference equation:

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

Good Luck