**Note: For this assignment, your Handwritten, hard-copy solution is due on or before October 8th, 2012.**

**Question No. 1**

Sketch the following sequences:

**Question No. 2**

Determine which of the following is a linear system:

**Question No. 3**

Given the following linear systems, find which one is time invariant:

**Question No. 4**

Determine which of the following linear systems is causal:

**Question No. 5**

Determine causality for each of the following linear systems:

**Question No. 6**

Find the unit-impulse response for each of the following linear systems:

**Question No. 7**

Determine stability for the following linear system:

**Question No. 9**

Determine stability for each of the following linear systems:

**Question No. 10**

Given the sequence

where is the time index or sample number.

1. Sketch the sequence and the reverse sequence.
2. Sketch the shifted sequences and.

**Question No. 11**

Using the following sequence definitions

and

evaluate the digital convolution

1. using the graphical method;
2. using the table method;
3. applying the convolution formula directly.

**Question No. 12**

Given the sequence definitions

and

evaluate the digital convolution

1. using the graphical method;
2. using the table method;
3. applying the convolution formula directly.