Faculty of Electrical & Electronics Engineering

DIGITAL SIGNAL PROCESSING

CHAPTER 2: Discrete-Time Signals & Systems

QUIZ 2 (10 Marks)

Name: _____ **Date: _____**

An analog signal or continuous-time signal needs to undergo several processes before can be accepted by Digital Signal Processors (DSPs) to carry out some applications. The processes are illustrated by Figure 1.

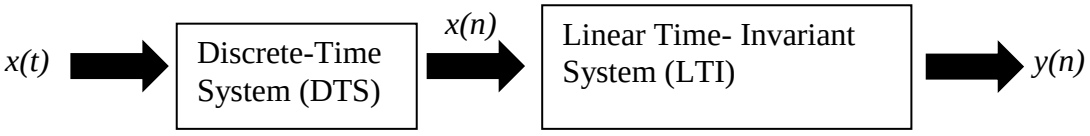

Figure 1

(i) If the output of the system is described as $y(n) = x(n)\cos(\omega n)$, determine the characteristics of the system in term of Causality, Linearity and Time-Invariant.

(ii) If the discrete input sequence, x(n) and the impulse response, h(n) are described by Figure 2 and Figure 3; determine output response using graphical and analytical method.

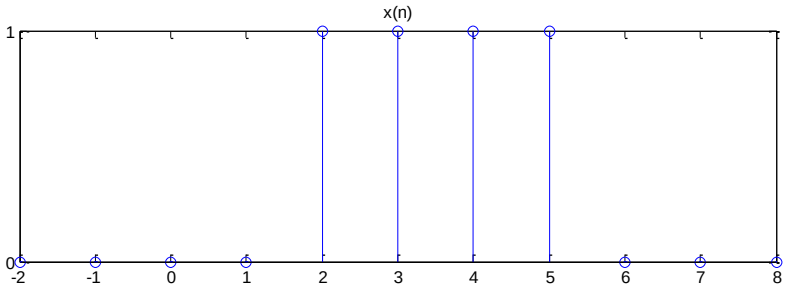

Figure 2

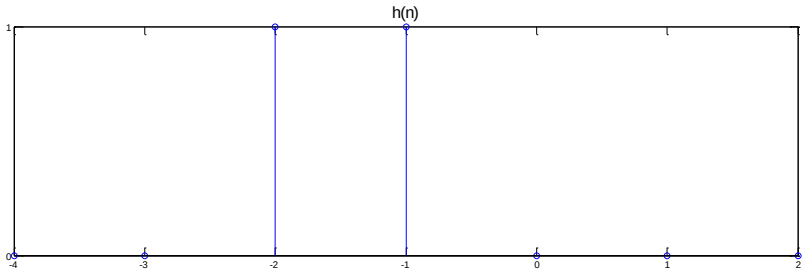

Figure 3