Name: _____

Student ID: _____

Signature: _____

CITY UNIVERSITY OF HONG KONG

Semester A 2015/2016

EE3210: Signals and Systems

Quiz 2

1. Time allowed: 15 minutes
2. Total number of problems: 2
3. Total marks available: 11
4. This paper may not be retained by candidates

Special Instructions

5. This is a closed book exam
6. Attempt all questions from each problem

Problem 1: (6 marks)

Determine if each of the following three continuous-time signals is periodic. If the signal is periodic, determine its fundamental period. If it is not, justify your answer.

(a) $x(t) = \cos(2t)$ (2 marks)

(b) $x(t) = \sin(2\pi t)$ (2 marks)

(c) $x(t) = \cos(2t) + \sin(2\pi t)$ (2 marks)

Problem 2: (5 marks)

Consider the feedback system shown in Figure 1 below.

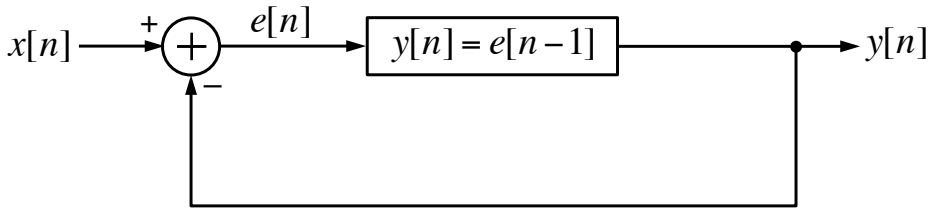

Figure 1

Assume that $y[n] = 0$ for $n < 0$. Sketch the output signal $y[n]$ when $x[n] = u[n]$, where $u[n]$ is the discrete-time unit step signal.

— End of Paper —