Serial Number: **101**   Name:

ECE 3300 Fall 2016 (Signals, Systems, and Transforms): Exam 1

Record your name on this test; record your name, student ID, and test serial number on the scantron. Enter the test serial number in *COURSE*; you may leave *SECTION* blank. You must show your work on every problem, showing all steps on your test. Do not use scratch paper or write your work anywhere but on the test. Circle your answers on the test and bubble in the corresponding answers on your scantron. The examination lasts 60 minutes and you may use one sheet of notes (front and back); no old test questions can be on your notes. Calculator use is permitted. There is one correct answer per question. In problems asking to find coefficients A, B, C, etc., some of these coefficients may equal zero.

Question 1: Suppose $x[n] = 4(2)^n(u[n + 2] - u[n - 2]) + \delta[n - 2]$. Determine $y[n] = \text{Ev}\{x[n]\}$. What is $y[0]$? $y[1]$? $y[2]$? Determine the sum of these values. Choose the closest answer.
A: 10.
B: 8.
C: 6.
D: 9.
E: 7.

Question 2: Simplify $\int_{t-4}^{t-1} (2 - \tau)\delta(\tau - 1)d\tau$. The answer can be written in the form $A(u(t - B) - u(t - C))$. What is $A + B + C$? Choose the closest answer.
A: 8.
B: 4.
C: 2.
D: 6.
E: 10.