## **PROBLEM:**

The input to the C-to-D converter in the figure below is

$$x(t) = 3 + 2\cos(6000\pi t - \pi/4) + 11\cos(12000\pi t - \pi/3)$$

The system function for the LTI system is

$$H(z) = \frac{1}{4}(1 - z^{-4})$$

If  $f_s = 8000$  samples/second, determine an expression for y(t), the output of the D-to-C converter.

$$x(t) \qquad Ideal \\ C-to-D \\ Converter \\ T = 1/f_s \\ x[n] \qquad ITI \\ System \\ H(z) \\ y[n] \qquad Ideal \\ D-to-C \\ Converter \\ T = 1/f_s \\$$