PROBLEM:

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

$$x(t) = 7 + 9\cos(1600\pi t - \pi/4) - 11\cos(12000\pi t - \pi/3)$$

The system function for the LTI system is

$$H(z) = \frac{1}{5}(1 + z^{-5})$$

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