edX **HKUSTx: ELEC1200.2x A System View of Communications: From Signals to...**

6.3 QUIZ QUESTION 1 (1/1 point)

Consider a continuous time cosine wave with frequency 850kHz.

If this sine wave is sampled at 1 MHz (one million samples pre second), it is aliased so that it looks like a lower frequency continuous cosine wave with what frequency (in kHz)?

| 150 | ✔ **Answer: 150** |

150

EXPLANATION

Due to aliaing, a cosine wave with frequency f sampled at a frequency F_s looks like a cosine with frequency $F_s - f$. Here f = 850kHz and F_s = 1MHz = 1000kHz. Thus, $F_s - f$ = 1000kHz - 850kHz = 150kHz.

You have used 3 of 3 submissions

6.3 QUIZ QUESTION 2 (1/1 point)

Which of the following discrete time sine waves is identical to the discrete time sine wave $\sin(1.3\pi n)$?

○ $\sin(0.7\pi n)$

○ $\sin(0.3\pi n)$

◉ $-\sin(0.7\pi n)$ ✔

○ $-\sin(0.3\pi n)$

Week 3 Quiz due Nov
16, 2015 at 15:30 UTC

**6.4 Discrete
Fourier Transform**
Week 3 Quiz due Nov
16, 2015 at 15:30 UTC

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EXPLANATION

Since $\sin(1.3\pi n) = \sin(1.3\pi n - 2\pi n) = \sin(-0.7\pi n)$, and $sin(x) = -\sin(-x)$, we have that $\sin(1.3\pi n) = -\sin(0.7\pi n)$.

You have used 2 of 2 submissions

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