

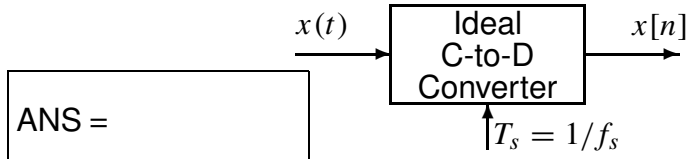
PROBLEM:

For each short question, pick a correct frequency and enter its letter in the answer box.

Note: Some questions might have more than one answer.

Frequency

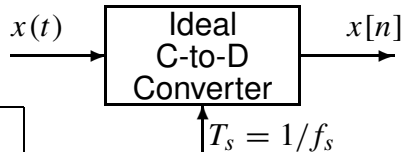
- (a) If the output from an ideal C/D converter is $x[n] = 1000 \cos(0.25\pi n)$, and the sampling rate is 8000 samples/sec, then determine one possible value of the input frequency of $x(t)$:



ANS =

- (a) 8000 Hz
- (b) 4000 Hz
- (c) 2000 Hz
- (d) 1600 Hz
- (e) 1200 Hz
- (f) 1000 Hz
- (g) 800 Hz
- (h) 500 Hz
- (i) 400 Hz

- (b) If the output from an ideal C/D converter is $x[n] = 1000 \cos(0.25\pi n)$, and the input signal $x(t)$ defined by: $x(t) = 1000 \cos(1800\pi t)$ then determine one possible value of the sampling frequency of the C-to-D converter:



ANS =

- (c) Determine the Nyquist rate for sampling the signal $x(t)$ defined by: $x(t) = \Re\{e^{j4000\pi t} + e^{j3000\pi t}\}$.

ANS =