**CMPE 352 – Signal Processing & Algorithms**

**QUIZ 10 – 13 May 2019**

Name: .....................................................................

**Question 1**

x(t) =

Find the Fourier transform of x(t). Determine the magnitude spectrum.

**Question 2**

The spectrum of speech prefiltered to about 4kHz results in very intelligible speech.

1. What cut off frequency would you choose as cut off frequency?
2. What sampling frequency would you use?
3. Assume that this speech signal is going to be transmitted by using PCM. The number of quantization levels is 1024. What is the bit rate?

**Question 3**

is input to a system where frequency response is

What is the output y(t) of this system?

**Question 4**

x(t) = 4 + + + (t in ms)

1. At what min freq should this signal be sampled?
2. What is the aliased signal x\_a(t) if you use half of the sampling frequency you found in part a).