Programming Assignment #2
CSCE 4510/5510
Spring 2019
Wireless Communication

100 Points

Objective:

Perform ASK, MFSK, and QPSK for the given digital data using Matlab.

Requirements:

1. Using the given digital data perform ASK and plot the modulated signal
2. Using the given digital data perform MFSK and plot the modulated signal
3. Using the given digital data perform QPSK and plot the modulated signal

Procedure:

1. Digital data for ASK: 1 0 0 1 1 0 0 1. Assume a time period of 1 ms for each bit.
2. When the data is 1, sample the signal $s_{ask}(t)=5.cos(10000\pi t)$ and plot the samples. When the digital data is zero, the modulated output is 0
3. Digital data for MFSK and QPSK: 10 01 01 01 10 10 01 11. Assume a time period of 1 ms for each symbol.
4. Using the equation 7.3 from the text book, create four (M = 4) signals with f_c = 5KHz, f_d = 500 Hz
5. Sample the corresponding FSK signal representing the two-bit pattern and plot the samples
6. Using the equation 7.6 from the text book, create four signals with f_c = 5KHz
7. Sample the corresponding QPSK signal representing the two-bit pattern and plot the samples
8. **Make sure you do not use any functions or Simulink toolbox from Matlab. Do not copy functions or code from other sources for ASK, MFSK, and QPSK modulation technique**
9. Upload all the plots (label all the axes and caption the plot) along with the Matlab code to Blackboard.

Instructions: Comment your Matlab code and make sure it's working. Create a readme file that describes the working and usage of the code. Please create a zip archive of your assignment folder (code and labelled plots) and upload the zip file. Not

following the above instructions could result up to 20% deduction from your program assignment score.