ITS323 – Quiz 3

Name: _____

ID: _____   Mark: _____ (out of 10)

Question 1 [3 marks]

In a wireless communications system a source transmits with power 2dBW. Both transmit and receive antenna gains are 10dBi. If the path loss between antennas is measured to be 60dB, what is the received power?

Question 2 [1 marks]

What is the name of the encoding scheme that varies the frequency of the input carrier signal as the input analog data changes?

Question 3 [3 marks]

   a) A transmitter adds a 1-bit even parity bit to the front (left-most position) of the 8-bits of data 01101010. If the last bit (right-most position) is in error, what does the receiver do? (e.g. is an error detected – why? Or not detected – why?) [2 marks]

   b) Using this error-detection scheme and assuming no errors, what is the throughput for a link with data rate 1.8Mb/s? [1 mark]

Question 4 [3 marks]

If 32-bit, 20kHz PCM is used to encoded a single-channel 5 minute song, how long will it take to send this song to your friend's computer if the computers are linked via 100Mb/s Ethernet?