**IC EX 3A: Assignment 3**

Chapter 3 Questions - On this assignment you may discuss these answers with your classmates, but each student must submit their own assignment for their grade.  Enter your answers online through Webclass to the questions for each part.

Q3 on Page 104:

a) How many bits does ASCII require to represent keyboard characters?   
*Answer: Seven bits define each keyboard character with 128 possibilities. Usually ASCII symbols are stored as two whole bytes (256 bits) with the other 128 bits unused or for extended ASCII.*

b) When the extra bit is added we call that \_\_\_\_\_\_\_\_\_ ASCII.   
*Answer: Eight bits are used for extended ASCII represent text more richly and used internally by application programs.*

c) If you transmit "Hello World!" (without the quotation marks) in ASCII, how many bytes must be transmitted?   
*Answer: 12 bytes (one for each letter, space, and punctuation marks).*

Q6 on Page 110:

a) Distinguish between bit rate and baud rate.   
*Answer: The rate that we transmit data is the bit rate, measured in bits per second. The baud rate is the number of clock cycles the transmission system uses per second and expressed in baud, not bauds per second.*

b) When are bit rate and baud rate going to be equal? (think of this in terms of the value of another certain term that is mentioned in the text).   
*Answer: Bit rate and baud rate are going to be equal when the transmission bit rate matches the speed of the system’s clock cycles.*