1) What is code for the letter “Y”? 1011001

2) What is the name of the code where only 1 bit changes from one level to the next? gray

3) What is the minimum sample frequency if the highest signal frequency is 15kHz. 30kHz

4) If the dynamic range is 85dB how many bits are needed in the sample. 15 bits
5) If there are 2168 levels to be represented, how many bits are needed in the sample?
12 bits

6) What is the dynamic range of a PCM system of 12 bits.
72.24 dB

7) If 1,500,000 bits were sent and 5 bits were in error what was the Bit Error Rate?
3.3(10⁻⁶)

8) Convert 0.0001 watts to dbm.

9) If 4 bits are used to send codes where only 3.6 bits are needed what is the efficiency?
90%

10) What is the resolution of a 12-bit A/D converter where the maximum input voltage is 3.7V and the minimum input voltage is 1.2V.
2.5/4096 = 0.00061

11) Odd parity is being used in a communications system. The message bits are 1001101. Is the parity bit a “1” or a “0”.
“1”

12) The following codes were received in a block-check scheme where odd parity is used on both the rows and columns. Circle the bit that can be corrected. The first bit in each row is the row parity bit.

  0 0 1 0 0
  0 1 0 0 1
  1 0 0 1 1
  1 1 1 0 0
  1 1 1 0 1 BCC

error in problem, all of the BCC bits are correct, one must be changed in order locate the bit in row two that is in error

13) If the input frequency has components that exceed the Nyquist frequency would you add a low-pass or high-pass filter in front of the A/D converter?
low-pass