Data Communications

Assignement-1

Note:

1. Calculate the baud rate for the given bit rate and type of modulation.

   a. 2000 bps, FSK

   b. 4000 bps, ASK

   c. 6000 bps, QPSK

   d. 36,000 bps, 64-QAM

2. What is the number of bits per baud for the following techniques?

   a. ASK with four different amplitudes

   b. FSK with 8 different frequencies

   c. PSK with four different phases

   d. QAM with a constellation of 128 points.

3. A corporation has a medium with a 1-MHz bandwidth (lowpass). The corporation needs to create 10 separate independent channels each capable of sending at least 10 Mbps. The company has decided to use QAM technology. What is the minimum number of bits per baud for each channel? What is the number of points in the constellation diagram for each channel? Let d =0.

4. Which characteristics of an analog signal are changed to represent the lowpass analog signal in each of the following analog-to-analog conversions?

   a. AM b. FM c. PM