

Question 1: Find the decoding delay for each of the following frame sequences if the frame rate is 60 frames per second.

- I B B P B B I B B P B B I
- I I I I I I I I I I I I I I I
- I P I P I P I P I P I P I

Question 2: Consider a source with letters A, B, ..., G with probabilities $\{3/8, 3/16, 3/16, 1/8, 1/16, 1/32, 1/32\}$. Find the entropy. Compare with the mean length of the Huffman code for this source.

Question 3: Assume that the bandwidth available to you is 2 MHz. For a carrier to noise ratio of $P/N=15$ dB determine the maximum bit rate possible? Compare with what you get with MPSK modulation with roll-off factor 0.1. Consider transmission with a BER (bit error rate) of 10^{-5} as error-free.