Homework assignment : Viterbi Algorithm

Due date Jan. 14, 2022

Consider a (2,1,4) convolutional code with generator sequences $(2,3)_8$ and $(3,5)_8$ in octal form respectively. Use the Viterbi algorithm to obtain its BER performance over the AWGN.

(a) The truncation length is set to $\tau = 32$ blocks. Three BER curves with $Q = 2$, 4, 8 respectively are plotted against the E_b/N_0 ranging from 2 dB to 10 dB for every increment of 0.5 dB.

(b) The truncation length is set to $\tau = 12$ blocks. Three BER curves with $Q = 2$, 4, 8 respectively are plotted against the E_b/N_0 ranging from 2 dB to 10 dB for every increment of 0.5 dB. .