## UNIVERSITY OF TEXAS AT DALLAS Department of Electrical Engineering

## *EE/TE 4367* - Telecommunications Switching & Transmission Assignment #5

**5.1** What is the maximum theoretically reliable bit rate possible over a telephone channel with the following parameters:

(a) W=2.4 KHz	SNR=20 dB
(b) W=3KHz	SNR=20 dB
(c) W=3 KHz	SNR=40 dB

**5.2** Suppose that a low-pass communications system has a 1 MHz banwidth. What bit rate is attainable using 8-level pulses? What is the Shannon capacity of this channel if the SNR is 20? And 40 dB?