

Manipal University Jaipur

Department of Computer and Communication Engineering

Subject: Data Communication (CC2102)

Assignment-2

1	What do you understand by multiplexing? Explain the working of Frequency Division Multiplexing with the help of transmitter and receiver block diagram.
2	Why are Scrambling techniques used? Explain the following techniques in detail and draw respective waveforms for the given data sequences: (i) B8ZS, for Data = 100000000 (ii) HDB3, for Data = 1100001000000000
3	In a CRC error-detecting scheme, the generator polynomial is $P(X) = X^4 + X^3 + 1$. Assume the codeword received at the receiver is 001110010011010. Show, how the receiver would find whether the received codeword is erroneous or not.
4	Write a short note on the following: (i) Synchronous Transmission and its frame format (ii) Optical Fiber (iii) Medium Access Control (iv) Ethernet