

Q1 Define bandwidth, data rate and throughput. Compare LAN and WAN on these parameters.

Q2 What is the role of flow control in data link layer? Compare it with transportation layer.

Q3 What is the role of error control in the data link layer? Compare it with transportation layer.

Q4 For the bit stream 11010100, draw the waveforms for binary encoding, RZ unipolar, RZ bipolar, NRZ-L, NRZI, NRZM, Manchester, and Differential Manchester encoding.

Q5 In a CRC error-detecting scheme, choose $P(x) = x^4 + x^2 + 1$. Encode the bits 11011010111.

Q6 Examine Go-back-N and Selective Repeat protocols for sequence number k. Examine the protocols for the different scenarios of window sizes. Draw diagrams to explain your answer.

Q7 Examine Go-back-N and Selective Repeat protocols from the perspective of acknowledgements.