

- 1) Explain simple parity check code process with neat diagram and example.
- 2) Explain different types of errors. Give example.
- 3) Describe Cyclic Redundancy check process with neat diagram and example. 8
- 4) Justify "Error correction is more complex than error detection."
- 5) Describe character oriented and bit oriented protocols.
- 6) Explain flow control and error control.
- 7) Explain with neat diagram Go Back N ARQ protocol in detail.
- 8) Describe with neat diagram Selective repeat ARQ protocol in detail.
- 9) Explain concept of sliding window with neat diagram.
- 10) Bit-stuff the following data and highlight stuffed bit. (each 2)
- 11) Numericals on CRC and Hamming coding.
- 12) Define piggybacking and its usefulness.
- 13) Bit-stuff the following data and highlight stuffed bit. (each 2)
10001111111001111101000111111111111000011111
- 14) A sender ends a series of packets to the same destination using 5-bit sequence numbers. If the sequence number starts with 0, what is the sequence number after sending 100 packets?
- 15) Using 5-bit sequence numbers, what is the maximum size of the send and receive windows for each of the following protocols?
 - a. Stop-and-Wait ARQ
 - b. Go-Back-NARQ
 - c. Selective-Repeat ARQ
- 16) Describe ICMP protocols (any 4 methods in each type)
- 17) Compare TCP and UDP
- 18) Discuss concept of Classful addressing
- 19) Find the error, if any, in the given IPv4 address. 4 (Problem)
- 20) Compare IPv4 and IPv6. (8 points)
- 21) Explain the need of the Network address translation.
- 22) Draw frame format of datagram.
- 23) Write advantages of IPv6 over IPv4.
- 24) Explain frame fields related to the Fragmentation in datagram.
- 25) Design a network and assign IP address to host system in a network. Find Last address, First address and subnet mask of sub networks. 8 (Problem)
- 26) Numerical on IP address.
- 27) Explain different functions of Network Layer.
- 28) Explain different functions of Data Link Layer.
- 29) Explain ARP and RARP with diagram.
- 30) Describe SMTP protocols with diagram.

