

1059
B.E. (Information Technology)
Fourth Semester
ITE-473/402: Computer Networks

Allowed: 3 Hours

Max. Marks: 50

IE: Attempt five questions in all, including Question No. 1 which is compulsory and selecting two questions from each Unit.

x-x-x

I. Attempt the following:-

- a) What are the key elements of a protocol?
- b) What does the number on a NAK frame mean for selective repeat ARQ?
- c) Define forwarding in Network layer-
- d) What is port address?
- e) What is the relationship between plain text and ciphertext (5x2)

UNIT - I

II. a) Network devices generally functions at the lower three layer of the OSI reference model. Briefly explain the reason.

b) If 10100101 is the original messages and $x^3 + 1$ is generator polynomial, then calculate the data stream send by sender. (2x5)

III. a) What are flow control protocols? Explain all operations of Go-Back-N ARQ in detail with diagrams.

b) Compare selective Repeat ARQ with GO-Back-N ARQ. (6,4)

IV. a) Explain the frame formats of IEEE 802.3 Standard in detail.

b) Draw the flow diagram to explain the working of CSMA along with persistence strategies. (4,6)

UNIT - II

V. a) Differentiate between Datagram and Virtual Circuit in tabular form.

b) Explain the Hierarchical routing in detail using suitable example. (2x5)

VI. a) Explain Three-Way Handshake Mechanism used by TCP to terminate a Session reliably.

b) Explain IP Header in detail. (2x5)

VII. Write Short notes on following:

- a) DNS
- b) Message security (2x5)

x-x-x