MCA/M08
Computer Networks
MCA -202

Time : 3 Hours   MM:50
Note:- Attempt Five questions in all, selecting One question from each unit. All questions carry equal marks.

UNIT-I

1(a)   What are the objectives and applications of computer networks.
 (b)   Distinguish between a Local area and a wide area network.

2   Describe the function of the following
 (a)   Network layer and Data Link layer of OSI reference model.
 (b)   Transport layer and Internet layer of TCP/IP model.
 (c) Multiplexing in Data Communication

3   Explain the physical and transmission characteristics of various guided transmission media used for data communication and specify the application areas of each.

UNIT-II

4(a)   How are multiple bit errors detected in the data link layer?
 (b)   How is framing done using bit stuffing and physical layer coding violations?

5   Distinguish between CSMA, DSMA and WDMA and describe the type of networks where they are used.

6(a)   Sketch the frame format of IEEE 802.3 Ethernet LAN and describe the purpose of its fields.
 (b)   Give the points of distinction between Token ring and FDDI.

7(a)   What is the role of sequence numbers in sliding window protocols?
       Explain one sliding window protocol where a number of frames can be transmitted in sequence.

 (b)   How does adaptive tree walk protocol where a number of frames can be transmitted in a sequence.

UNIT-III
8   Explain flooding and shortest path routing and explain how and when they are used in link state routing.

9(a)   How congestion is controlled using Token bucket traffic shaping?

(b)   How are packets routed to mobile hosts?

10   Describe the frame formats of TCP and IP data units and sketch the classful addressing of IP specifying the limits of network id. And host id fields of each class.