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) Why is Layered architecture preferred in network? Discuss various key design issued and functions of layers. 5

(b) Compare and contrast OSI with TCP/IP. 5

2(a) Write and explain Circuit Switching, Message switching and Packet Switching 5

(b) If a binary signal is sent over 6-kHZ channel, Whose signal to noise ratio is 40DB, What is the maximum achievable data transfer rate? 5

3(a) Discuss collision free protocols in detail. 5

(b) Differentiate High Speed LAN with DQDB 5

UNIT-II

4 Differentiate

(i) Protocol data Unit (PDU) and service data Unit(SDU)

(ii) TDM and FDM

(iii) Topologies and Protocols

(iv) WAN and Internet 10

5(a) Explain sliding window protocol in detail with the concept of piggybacking. 5

(b) Draw Manchester encoding for bit-stream 5

6(a) Explain pure ALOHA and slotted ALOHA. Drive expression of throughput for slotted Aloha. 5

(b) Explain 802.5 Token Ring protocols in detail. 5

UNIT-III

7(a) What are the two primary services provided by IP? Give IP header format and explain each field in detail. 5

(b) Explain in detail different routing techniques. 5

8 Differentiate

(i) Half duplex and full duplex transmission

(ii) Base band and Broad band transmission media

(iii) Persistence and non-persistence protocols.

(iv) GSM and CDMA technologies. 10

9 Why error control is required in data transmission? How errors can be detected and corrected? 10

10 Write notes on following:

(a) X.25

(b) UDP

(c ) ISDN

(d) SMTP 10