

# END TERM EXAMINATION

FOURTH SEMESTER[MCA] MAY-2008

PAPER CODE:MCA-208

Subject: Computer Networks

Paper Id:44208

(Batch:2004-2006)

Time:3 Hours

Maximum Marks:60

Note:Q.1 is compulsory.Attempt one question from each Unit.

- Q1.** (a) Define line configuration in computer networks (6x2)  
(b) Discuss any four commonly used topologies in computer networks.  
(c) Define the different transmission modes in computer communication.  
(d) With the help of an example, explain the difference between bit rate and baud.  
(e) Define ASK, FSK, and QPSK.  
(f) Compare digital modulation techniques with analog modulation techniques.

## UNIT-I

- Q2.**(a) Compare TCP/IP model with ISO/OSI Model of computer networks. (6)  
(b) What are the different types of transmission media? Explain the process of data transmission through optical fiber. (6)
- Q3.**(a) Give the NRZ-I, Manchester, Differential Manchester, and Bipolar AMI encoding Of the digital data:11000101. (8)  
(b) Explain Pulse Code Modulation(PCM) (4)

## UNIT-II

- Q4.** What are the functions of data link layer. Explains Different techniques for line Discipline, error control and flow control. (12)
- Q5.** Explain HDLC with the help of its frame formats. Discuss the code bits in the Control field of the S-Frame. (12)

## UNIT-III

- Q6.**(a) Discuss the functions of network layer. (6)  
(b) What are the different routing algorithms at network layer? Explain and compare them. (6)
- Q7.**(a) What are the different protocols at the network layer in the internet? With the help of packet format, explain Ipv. (6)  
(b) What is congestion? Explain a technique for congestion control at network layer. (6)

## UNIT-IV

- Q8.**(a) With the help of datagram format, explain UDP. How checksum is calculated in UDP. (6)  
(b) Discuss the process of connection establishment and termination in TCP. (6)
- Q9.** What are the different ways by which network security is provided? Explain the use of Firewalls. (12)

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