END TERM EXAMINATION

FOURTH SEMESTER [MCA] MAY –JUNE 2009

Paper Code: MCA-208	**Subject: Computer Networks**
Paper Id-44208	**(Batch: 2004-2007)**

Time : 3 Hours   **Maximum Marks : 60**

Note: Q1 is compulsory. Attempt one question from each unit.

Q1. Answer all the following questions briefly   2*10=20
   a) How is QAL related to ASK and PSK?
   b) Differentiate between Multimode and mono mode in Fiber optics.
   c) Differentiate between microwave and radio wave
   d) What is sampling theorem?
   e) What are various classes of IP address? How is subnet different from supernet?
   f) An analog signal carries 4 bit in each signal unit. If 1000 signal units are sent per second, find the baud rate and bit rate.
   g) What is router solication and advertisement?
   h) Compare guided media with that of unguided transmission media.
   i) How can you combine Time Division and Space division switches?
   j) What is jitter? How can we control jitter by buffering?

UNIT-I

Q2. a) Compare and Contrast between TCP/IP and OSI reference models.   [4]
   b) With reference to ISO-OSI reference model, briefly explain the functions of the following devices: [6]
        i) Repeater ii) Bridge iii) Router iv) Gateway

Q3. a). What is Pulse Code Modulation(PCM)? Explain.   [4]
   b) Convert the following digital data into digital signals using NRZ-I, Manchester and differential Manchester encoding techniques: [6]
        10101100

UNIT-II

Q4. a) Explain the MAC layer frame format for wireless LANs   [4]
   b) How are a lost acknowledgement and a lost frame handled by the sender in Go-Back- N ARQ?   Explain with example.   [6]

Q5. Given a 10 bit sequence 11011011100 and a divisor is 1101, find the CRC. Also check your result..   [6]
   b)What is frequency division multiple access(FDMA)? How is it different from time division multiple access(TDMA)   [4]

UNIT-III

Q6. a) What is Routing in a network layer? Explain any two routing algorithms.   [5]

b) What is Traffic Shaping? Explain two methods to shape the traffic.   [5]

Q.7. a) Why is IP called Best –Effort – Delivery protocol? Discuss, how fragmentation is done in IP datagram   [5]

b) What do you mean by Quality of Service(Qos)? How can Qos be achieved by Resource Reservation Protocol?.   [5]

UNIT-IV

Q8. a) What are the basic design issues for Transport layer? Briefly discuss the function of Transmission Control Protocol(TCP)?   [6]

b) Draw State Transition Diagram for TCP. Explain the various state transitions at both server side and client side.   [4]

Q9. Write short notes on any Two of the following.   [2 * 5 =10]
   a) UDP
   b) Firewalls
   c) Cryptography