T.E. (Computer) (Semester – II) Examination, 2009
COMPUTER NETWORKS
(2003 Course)

Time : 3 Hours Max. Marks : 100

Instructions *: 1) Answer* ***any 3*** *questions from* ***each*** *Section.*
2) Answers to the ***two*** *Sections should be written in* ***separate*** *books.*
3) ***Neat*** *diagrams must be drawn* ***whenever*** *necessary.*
4) Black figures to the ***right*** *indicate* ***full*** *marks.*

SECTION – I

1. a) What are the network design issues involved in designing a typical network ? **8**

   b) Give an example of a situation in which multicast address might be beneficial. **4**

   c) Show that two dimensional parity allow detection of all 3 bit errors. **4**

OR

2. a) Two network each provides reliable connection oriented service. One of them offers a reliable byte stream and other offers a reliable message stream. Are these identical ? If so, why is the distinction made ? If not give an example of how they differ ? **8**

   b) What is the principal difference between connectionless and connection oriented protocol ? Also compare TCP/IP and OSI reference model ? **8**

3. a) Physical service is non-confirmed service. If some data bits are lost during the transmission over the interconnecting media which layer detect the loss and take recovery action ? Explain. **8**

   b) Which of the OSI layer handle each of the following ? **8**

      1) Dividing the transmitted bit stream into frames

      2) Determine which route through the subnet to use.

OR

4. a) Store and forward switches have an advantage over cut through switches with respect to damaged frames. Explain what is it ? 8

   b) Give a two example of computer application for which connection oriented service is appropriate. Give two examples for which connectionless service is best. 8

5. a) In stop and wait protocol define and discuss the handling of 9

      i) Damaged frame ii) Lost frame

   b) What is the basic purpose of MAC layer protocol ? Explain function of Ethernet protocol. 9

OR

6. a) Write a short notes on : 18

      1) Wireless LAN protocol

      2) Difference between routers and bridges

      3) Routing algorithm.

SECTION – II

7. a) A COMPUTER ON 6 Mbps network is regulated by token bucket. The bucket is filled at the rate of 1 Mbps. It is initially filled to capacity with 8 megabits. How long can the computer transmit at the fill 6 Mbps ? 8

   b) Explain design issue of Network layer. 8

OR

8. a) Explain the working of RIP. Also explain common problem occurs in RIP. 8

   b) Find the sub network address for the following : 8

Sr. No.	IP Address	Mask
1	141.181.14.16	255.255.224.0
2	200.34.22.156	255.255.255.240
3	125.35.12.57	255.255.0.0

9. a) What is count to infinity problem ? Explain it with suitable example. **8**

   b) Describe the format of TCP header. **8**

OR

10. a) Explain the congestion prevention policy of the Data link layer, Network layer, Transport layer. **8**

    b) Explain three way handshakes in transport layer. **8**

11. a) How FTP works ? Explain. **9**

    b) What is WWW ? How it works ? What is the difference between static and dynamic web pages ? **9**

OR

12. Write short notes on : **18**

    1) MIME

    2) LDAP

    3) DNS
