



**T.E. (Information Technology) (Semester – II) Examination, 2010**  
**COMPUTER NETWORK TECHNOLOGY**  
**(2003 Course)**

Time : 3 Hours

Max. Marks : 100

- N.B. :** 1) *Answers to the two Sections should be written in separate books.*  
2) *Neat diagrams must be drawn wherever necessary.*  
3) *Assume suitable data, if necessary.*

**SECTION – I**

1. a) What do you mean by congestion ? Discuss the open-loop and closed-loop congestion control mechanism ? 8  
b) What is the purpose of ARP and RARP ? What is the size of Ethernet frame carrying an ARP packet ? 8

**OR**

2. a) Discuss the design issues of the network layer. 8  
b) Draw and explain IPv4 header format ? 8  
3. a) Explain TCP with its header format. 8  
b) Explain the three way of handshake for connection establishment in TCP. 8

**OR**

4. a) Explain UDP header format and two applications of UDP. 8  
b) List and discuss the performance issues of transport layer. 8  
5. a) Explain the function of E-mail system. 6  
b) Explain static, dynamic and active pages. 6  
c) What do you mean by statelessness and cookies ? Explain. 6

**OR**



6. Write short notes on **(any three)** :

18

- a) DNS.
- b) SMTP.
- c) HTTP.
- d) FTP.

## SECTION – II

- 7. a) Explain the techniques used in communicating stored audio/video files. 8
- b) Explain various scheduling mechanisms used in communication of multimedia application. 8

OR

- 8. a) What is the essence of RSVP ? Why this protocol is needed ? 8
- b) Differentiate between SIP and H.323 protocols ? 8
- 9. a) What is purpose of SMI and MIB in relation to SNMP ? 8
- b) What is DHCP ? Explain its frame format. 8

OR

- 10. a) List the five areas of network management and explain the necessity of each. 8
- b) What is BOOTP ? Explain its frame format. 8

11. Write short notes on :

18

- a) Frame relay.
- b) SMDS.
- c) Bluetooth
- d) B-ISDN services.

OR

12. Write short notes on **(any three)** :

18

- a) ISDN.
- b) ATM layers.
- c) X.25.
- d) IEEE 802.11.