

Code: IT5T2

III B.Tech - I Semester – Regular Examinations - November 2014

**COMPUTER NETWORKS
(INFORMATION TECHNOLOGY)**

Duration: 3 hours

Marks: 5x14=70

Answer any FIVE questions. All questions carry equal marks

1. a) Compare and contrast OSI and TCP/IP reference models. 7 M
- b) What is topology? Explain four topologies. 7 M
2. a) Explain Client Server paradigm. 7 M
- b) Explain the following 7 M
 - i) Peer to Peer networks
 - ii) TELNET
3. a) Explain three way handshaking connection establishment in TCP. 6 M
- b) What is the value of the receiver window for host A if the receiver, host B, has a buffer size of 5000 bytes and 1000 bytes of received and unprocessed data? 4 M
- c) Write uses of UDP. 4 M

4. a) What is the purpose of Network layer? Explain Network layer protocols. 8 M
- b) Expand the address 0:15::1:12:1213 to its original form using IPV6. 3 M
- c) Explain anycast addresses in IPV6 with the help of diagram. 3 M
5. Explain the following
- a) Link layer addressing 7 M
 - b) Mobile IP. 7 M
6. a) Explain any four Line coding schemes. 7 M
- b) Solve the following 7 M
- i) An analog signal has a bit rate of 8000 bps and a baud rate of 1000 baud. How many data elements are carried by each signal element? How many signal elements do we need?
 - ii) Suppose we have an available bandwidth of 100 kHz which spans from 200 to 300 kHz. What are the carrier frequency and the bit rate if we modulated our data by using ASK with $d=1$?

7. Explain the following
- a) Multimedia data 7 M
 - b) Internet security and Firewalls. 7 M
8. Write socket programming using
- a) TCP 7 M
 - b) UDP 7 M