Roll No. ☐☐☐☐☐☐☐☐☐☐☐   **Total No. of Pages : 02**

Total No. of Questions : 07

B.Sc.(IT) (2015 & Onwards)   (Sem.–4)
COMPUTER NETWORKS
Subject Code : BSIT-404
Paper ID : [74086]

Time : 3 Hrs.   **Max. Marks : 60**

INSTRUCTIONS TO CANDIDATES :
1. **SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.**
2. **SECTION-B contains SIX questions carrying TEN marks each and students have to attempt any FOUR questions.**
3. **Use of non-programmable scientific calculator is allowed.**

SECTION-A

1.   **Answer briefly :**

a. Discuss IEEE 802.3 frame format.

b. What are the advantages of Optic fibre as a transmission media?

c. Explain the term checksum in reference to error detecting codes.

d. Differentiate between broadcast and point to point networks.

e. What are the responsibilities of Transport Layer?

f. On which layer do switches and routers work?

g. What factors effects the data rate of a link?

h. Explain in brief about the term computer network and its goals.

i. Differentiate between Circuit Switching, Packet Switching and Message switching.

j. What is World Wide Web?

SECTION-B

2. Contrast link state and distance vector routing protocols, giving an example of each. What is count to infinity problem?   (10)

3. a. How does a token ring network work? In what way is it different from Ethernet?   (5)

   b. What are the two reasons for using layered protocols? What do you mean by link to link layers of OSI reference model? Explain their functions briefly.   (5)

4. Consider the three-way handshake in TCP connection setup.

   a. Suppose that an old SYN segment from station A arrives at station B, requesting a TCP connection. Explain how the three-way handshake procedure ensures that the connection is rejected.   (5)

   b. Now suppose that an old SYN segment from station A arrives at station B; followed a bit later by an old ACK segment from A to a SYN segment from B. Is this connection request also rejected?   (5)

5. Write a detailed note on following transmission media :

   a. Twisted pair.   (5)

   b. Co-axial cable.   (5)

6. Explain how Leaky Bucket protocol used for congestion control.   (10)

7. a. Discuss about pros and cons of different Network Topologies.   (5)

   b. What are Transmission Impairments?   (5)