

Printed pages: 02

Paper Id:

110611

Sub Code: NCS 601

Roll No:

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**B. TECH
(SEM- VI) THEORY EXAMINATION 2017-18
COMPUTER NETWORKS**

Time: 3 Hours

Total Marks: 100

Note: 1. Attempt all Sections. If require any missing data; then choose suitably.

SECTION A

- 1. Attempt all questions in brief. 2 x 10 = 20**
- a. What are the applications of Computer Networks?
 - b. List the advantages and disadvantages of ring topology.
 - c. What is count-to-infinity problem?
 - d. Given the IP address 180.25.21.172 and the subnet mask 255.255.192.0, what is the subnet address?
 - e. What is piggybacking?
 - f. Measurement of slotted ALOHA channel with infinite number of users show that the 10 percent of slots are idle.
 - (i) What is the channel load?
 - (ii) What is the throughput?
 - g. Provide few reasons for congestion in a network.
 - h. How does transport layer perform duplication control?
 - i. If a binary signal is sent over a 3KHZ channel. Whose signal to noise ratio is 20db. What is the maximum achievable data rate?
 - j. Mention the use of HTTP.

SECTION B

- 2. Attempt any three of the following: 10 x 3 = 30**
- a. Explain network topological design with necessary diagram and brief the advantages and disadvantages of various topologies.
 - b. Discuss the issues in the data link layer and about its protocol on the basis of layering principle.
 - c. What is congestion? Briefly describe the techniques that prevent congestion.
 - d. Enumerate on TCP header and working of TCP and differentiate TCP and UDP with frame format.
 - e. Elaborate about TELNET and its working procedure.

SECTION C

- 3. Attempt any one part of the following: 10 x 1 = 10**
- (a) What is OSI Model? Explain the functions; protocols and services of each layer?
 - (b) Discuss the different physical layer transmission media.

4. **Attempt any *one* part of the following:** **10 x 1 = 10**
- (a) Discuss different carrier sense protocols. How are they different than collisions protocols?
 - (b) Write short notes on following:
 - i. Stop and Wait ARQ
 - ii. Sliding Window Protocol
 - iii. Go Back N ARQ

5. **Attempt any *one* part of the following:** **10 x 1 = 10**
- (a) What is IP addressing? How it is classified? How is subnet addressing is performed?
 - (b) What is unicast routing? Discuss unicast routing protocols.

6. **Attempt any *one* part of the following:** **10 x 1 = 10**
- (a) Enumerate how the transport layer ensure that the complete message arrives at the destination and in the proper order.
 - (b) Explain the three way handshaking protocol to establish the transport level connection.

7. **Attempt any *one* part of the following:** **10 x 1 = 10**
- (a) Write short notes on any two of the following:
 - i. DNS in the internet
 - ii. Voice Over IP
 - iii. File Transfer Protocol
 - (b) Explain the SNMP protocols in detail.