

TCS 502

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Odd Semester Examination, 2019-20
B.Tech (CSE, SEMESTER V)
COMPUTER NETWORKS

Time: 3 Hours

Total Marks: 100

Total no. of printed pages: 1

- Note:** (i) Attempt ALL questions.
(ii) All Questions carry equal marks.
(iii) Be precise in your answer.

Q.1. Attempt any four parts of the following: (5 × 4 = 20)

- What are reasons for using layered protocols?
- What is ISDN? Draw the ISDN communication architecture?
- Differentiate between twisted pair, co-axial and fiber optic cable.
- If the frequency spectrum of a signal has a bandwidth of 1600 Hz with the highest frequency at 800 Hz according to the Nyquist theorem. What should be the sampling rate?
- Write short notes on the following term:
i) MAN ii) WAN

Q.2. Attempt any four parts of the following: (5 × 4 = 20)

- Compare and contrast CSMA/CD with CSMA/CA.
- What is IEEE standards used for lan and wireless explain?
- Sketch the Manchester encoding to the bit stream: 0101110101.
- State drawbacks of stop and wait protocol.
- Explain performance issues for the following data link layer protocols:
i) Go-Back-N protocol.
ii) Sliding window protocol

Q.3. Attempt any two parts of the following: (10 × 2 = 20)

- Explain the congestion control mechanisms to regulate the traffic in a data network.
- Discuss RPC and various design issues of presentation layer and transport layer.
- Explain routing and bellman ford algorithm.

Q.4. Attempt any two parts of the following: (10 × 2 = 20)

- What is UDP? What is the maximum and minimum size of a UDP datagram? Also discuss the use of UDP.
- What is cryptography? Differentiate between symmetric key cryptography and asymmetric-key cryptography.
- What is silly window syndrome in TCP flow control? Explain Nagel's algorithm and Clark's solution for the syndrome created by sender and receiver.

Q.5. Attempt any two parts of the following: (10 × 2 = 20)

- Define the various data compression techniques used in network?
 - What is the difference between http and https protocol?
- How does FTP work? Differentiate between passive and active FTP.