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B TECH
(SEM-VII) THEORY EXAMINATION 2021-22
DATA COMMUNICATION 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 is digital communication?
 - b. What do you mean by internet protocol?
 - c. Give two differences between LAN and MAN.
 - d. What are Collision-Free Protocols?
 - e. Explain communication methods.
 - f. What are optimum receivers?
 - g. What are simplex and duplex communication systems?
 - h. What is fast Ethernet?
 - i. What do you understand by ALOHA?
 - j. Define Bluetooth.

SECTION B

- 2. Attempt any three of the following: 10x3=30**
- a. Give some differences between deterministic and stochastic signals.
 - b. What are the goals and applications of data communication networking?
 - c. Discuss Error performance analysis of receivers for memory-less modulation?
 - d. Explain Bluetooth IEEE 802.16.
 - e. Describe Network Topology in detail.

SECTION C

- 3. Attempt any one part of the following: 10x1=10**
- a. Describe different communication channels and their characteristics.
 - b. Discuss in detail about data link layer.
- 4. Attempt any one part of the following: 10x1=10**
- a. Write a short note on Carrier Sense Multiple Access (CSMA).
 - b. Explain the representation of analog and digitally modulated signals.
- 5. Attempt any one part of the following: 10x1=10**
- a. Describe orthogonal frequency division multiplexing (OFDM) with block diagram and mathematical equations.
 - b. Explain CDMA in detail.
- 6. Attempt any one part of the following: 10x1=10**
- a. What is Token Ring? Give difference between Fast & Gigabit Ethernet.
 - b. Explain about OSI model of communication network
- 7. Attempt any one part of the following: 10x1=10**
- a. Explain in brief LAN, MAN, and WAN.
 - b. Describe File Transfer, Electronic mail, and Virtual Terminals.