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B.TECH
(SEM. VII) THEORY EXAMINATION 2017-18
DATA COMMUNICATION NETWORKS

Time: 3 Hours**Total Marks: 100**

- Note:** 1. Attempt all Sections.
2. Assume any missing data.

SECTION A

- 1. Attempt all questions in brief. 2 x 10 = 20**
- What is the difference between Guided Vs Unguided Media?
 - Why do we use Layered protocol? Give at least two reasons.
 - Differentiate between circuit switching and packet switching using suitable diagram.
 - Give data transfer modes of HDLC?
 - Differentiate between Fast Ethernet & Gigabit Ethernet.
 - Give the frame format of IEEE standards 802 for LAN.
 - Write short note on IP Data Gram
 - Write down the difference between Hardware addressing versus IP addressing.
 - Write short note on UDP?
 - Write short note on network security?

SECTION B

- 2. Attempt any three of the following: 10 x 3 = 30**
- What do you mean by layered architecture? Explain the roll of each layer in OSI Model.
 - What do you mean by framing? Explain bit oriented framing and character oriented framing.
 - Define various protocol used in wireless LAN.
 - Explain Routing Algorithms in detail.
 - Define connectionless and connection oriented services. Explain header format of TCP protocol.

SECTION C

- 3. Attempt any one parts of the following: 10 x 1 = 10**
- What is line coding technique? Explain and compare performance of different line coding techniques.
 - What are the conceptual pieces of a data communications system? Explain.
- 4. Attempt any one parts of the following: 10 x 1 = 10**
- Define and explain the various frame type in HDLC.
 - Explain the concept of sliding window technique for error control.
- 5. Attempt any one parts of the following: 10 x 1 = 10**
- How do we say collision detection in analog process? Why do we prefer CSMA over ALOHA?

- b) Define MAC layer of data link layer. Discuss CSMA and CSMA/CA random access method.

6. Attempt any one parts of the following:

10 x 1 = 10

- a) Explain IPv4 and IPv6 addressing.
- b) What is the difference between network layer delivery and transport layer delivery? Explain the congestion control techniques.

7. Attempt any one parts of the following:

10 x 1 = 10

- a) What is Cryptography? Differentiate between symmetric key cryptography and asymmetric key cryptography.
- b) What do you understand by ATM? Explain cell header format in ATM and briefly describe the four services classes of ATM.

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