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Roll No.

H42

B. Tech. EXAMINATION, 2020

(Eighth Semester)

(B Scheme) (Re-appear Only)

ECE, EEE

ECE404B

DATA COMMUNICATIONS AND
NETWORK

Time : 2½ Hours]

[Maximum Marks : 75

Before answering the question-paper candidates should ensure that they have been supplied to correct and complete question-paper. No complaint, in this regard, will be entertained after the examination.

Note : Attempt *Four* questions in all. All questions carry equal marks.

(3)M-H42

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1. (a) Discuss necessary criteria for effective and efficient network.
(b) What are three major classes of guided media ? Discuss briefly.
(c) What are the advantages of distributed processing ?
2. (a) What are the various transmission impairments ? Discuss any one in detail.
(b) Explain the following terms :
Bandwidth, Throughput, Latency and Bandwidth-delay product.
3. (a) What is the purpose of scrambling ?
(b) Encode 10110110011 into NRZ-L and NRZ-I encoding schemes.
(c) What are the transmission modes of a data communication system ? Explain.

4. (a) What is statistical TDM ? Explain, how it is advantageous as compared to standard TDM system.
(b) Explain in terms of data link control and physical layer control. How are error and flow accomplished in synchronous time division multiplexing ?
5. (a) Compare and contrast a circuit-switched network and a packet-switched network.
(b) Discuss in detail various phases involved in packet travelling through a virtual-circuit network.
6. (a) Define framing and discuss, why it is needed.
(b) Discuss Piggybacking and its usefulness.
(c) Discuss the efficiency of stop and wait ARQ protocol.

7. (a) What tasks are performed by physical and data link layers ?
(b) What is peer-to-peer process ?
(c) If data link layer can detect errors between hops, why another checking mechanism is required at transport layer ?
8. (a) Discuss in detail various fields of 02.3 MAC frame.
(b) What are the common standard Ethernet implementations ? Discuss in detail.