



Printed Pages : 2

EC - 802

(Following Paper ID and Roll No. to be filled in your Answer Book)

PAPER ID : 3049

Roll No.

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B. Tech.

(SEM. VIII) EXAMINATION, 2006-07

DATA COMMUNICATION NETWORK

Time : 3 Hours]

[Total Marks : 100

Note : Attempt all questions.

- 1 Attempt any **four** parts of the following : **5×4=20**
 - (a) Explain the relationship between Data Rate and Bandwidth.
 - (b) Explain the synchronous data communication with relevant examples.
 - (c) Compare the OSI and TCP reference models.
 - (d) Why do we use layered protocols? Give atleast two reasons.
 - (e) What is the use of Bit stuffing in data?
 - (f) What do you mean by pipe lining ? Explain it with examples.

- 2 Attempt any **four** parts of the following : **5×4=20**
 - (a) What do you understand by Medium Access Control?
 - (b) What are the major problems in allocating the channel?
 - (c) What do you understand by contention systems? Write a note on it.

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- (d) Why do we prefer CSMA over ALOHA?
- (e) Explain the reservation protocols? Where do we use these ?
- (f) How do we say that collision detection is an analog process?

3 Attempt any **two** parts of the following : **10×2=20**

- (a) Explain in detail IEEE standard 802.4 with the help of suitable examples.
- (b) Compare IEEE standards 802.3, 802.4 and 802.5 with the help of suitable diagrams in detail.
- (c) Explain in detail different types of Bridges.

4 Attempt any **two** parts of the following : **10×2=20**

- (a) Compare the virtual circuit and Datagram Subnets in detail.
- (b) Explain in detail Flooding. What do you understand by selective flooding? Also explain Flow Based Routing.
- (c) Explain with the help of suitable diagrams, The Network Layer in The Internet.

5 Attempt any **two** parts of the following : **10×2=20**

- (a) What are the different Elements of Transport Protocols? And also explain how do we establish a connection?
- (b) Explain with the help of diagrams the TCP Segment Header. And also explain TCP Connection Management.
- (c) Explain in detail Secret – Key Algorithms. Explain in detail the data encryption as well.