

Roll No.

Total No. of Questions : 8]

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Paper ID [EC503]

(Please fill this Paper ID in OMR Sheet)

M.Tech (Sem. - 1st)

DATA COMMUNICATION NETWORKS (EC - 503)

Time : 03 Hours

Maximum Marks : 100

Instruction to Candidates:

- 1) Attempt any **Five** questions.
- 2) All questions carry equal marks.

- Q1)** (a) Discuss the various transmission impairments.
(b) Compare asynchronous and synchronous way of transmission.
- Q2)** (a) Discuss an error detection technique currently used in today's computer networks.
(b) Compare Frequency Division Multiplexing and Time division multiplexing.
- Q3)** (a) Suppose two nodes start at the same time a packet of length L over a broadcast channel of the rate R . Denote the propagation delay between the two nodes as t_{prop} . Will there be a collision if $t_{prop} < \frac{L}{R}$? Why or why not?
(b) Explain the layers of TCP / IP model.
- Q4)** (a) Compare token ring, FDDI & DQDB techniques of computer networking.
(b) Suppose that an intruder could both insert and remove DNS messages into the n/w. Give three scenarios showing the problems such an intruder could cause.
- Q5)** (a) Explain the Kernel of linux in detail.
(b) Describe the architecture of ATM n/ws.
- Q6)** (a) What are the two main functions of a datagram based n/w? What additional functions does a VC - based n/w layer have?
(b) Discuss the structure of IPv6.

- Q7)** (a) Discuss the various flow control principles.
(b) Discuss the important features of MAN technology.

Q8) Write short notes on the following :

- (a) X . 25 Protocol
(b) MAC Protocol

