BTS 158 (E)
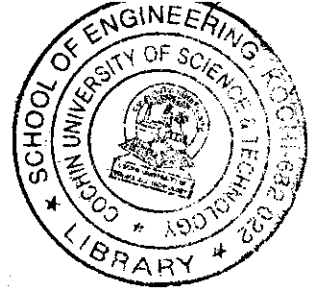
B.TECH. DEGREE VII SEMESTER EXAMINATION IN
ELECTRONICS AND COMMUNICATION ENGINEERING
MAY 2002

EC 702 COMPUTER NETWORKS
(1995 Admissions)

Time: 3 Hours   Maximum Marks: 100

I.	(a)	Explain Null modem. Where is it used?	(10)
	(b)	Illustrate one procedure for CRC error detection method.	(10)

<div align="center">OR</div>

II.	(a)	Compare PBX based and LAN based computer communications.	(10)
	(b)	Ten 9600 bps lines are to be multiplexed using TDM. Ignoring overhead bits, what is the total capacity required for synchronous TDM? If line utilization is limited to 0.8 and each line is idle 50% of the time, what is the capacity required for statistical TDM?	(10)

III.	Present the 7 layer ISO – OSI network architecture. Mention the functions of each layer. (20)

<div align="center">OR</div>

IV.	(a)	Explain a bit oriented data link protocol.	(12)
	(b)	Compare half duplex and full duplex links.	(8)

V.	(a)	Explain features of ISDN.	(10)
	(b)	Explain packet switching.	(10)

<div align="center">OR</div>

VI.	(a)	Explain synchronous and asynchronous data transmissions.	(12)
	(b)	Explain the role of carrier signal in data transmission.	(8)

VII.	Discuss network management strategies in a factory LAN set up.	(20)

<div align="center">OR</div>

VIII.	Discuss planning, design and implementation aspects of a distributed data base system.	(20)

IX.	Discuss various application areas of Queuing theory in the study of computer networks.	(20)

<div align="center">OR</div>

X.	(a)	At a switching center, messages arrive at the rate of 120/hr. The message length is distributed exponentially, with a mean length of 144 characters. The speed is 8 characters/sec. Find the mean message waiting time and link utilization.	(12)
	(b)	Explain the terms:	
		(i) Network delay	
		(ii) Transmission link utilization	
		from the statistical point of view.	(8)