

B. E. (Computer Science and Engineering)
Fifth Semester
CS-501: Data Communication and Networks

Time allowed: 3 Hours

Max. Marks: 50

NOTE: Attempt five questions in all, including Question No. I which is compulsory and selecting two questions from each Part.

x-x-x

I	i) What is importance of FECN and BECN bits in frame relay header?	(1)
	ii) Show the diagram for Bipolar AMI (Alternate Mark Inversion) encoding scheme for 010010.	(1)
	iii) Briefly give the difference between pure ALOHA and slotted ALOHA.	(1)
	iv) What is function of ATM Adaptation layer?	(1)
	v) Briefly explain the concept of RARP (Reverse Address Resolution Protocol).	(1)
	vi) A signal with 200 milliwatts power passes through 10 devices, each with an average noise of 2 microwatts. What is SNR?	(1)
	vii) What is Fast Ethernet?	(1)
	viii) Briefly explain how In-band signaling is different from out of band signaling.	(1)
	ix) What is IEEE 802.5?	(1)
	x) What is Fibre Channel?	(1)
PART-A		
II	a) Explain difference between asynchronous and synchronous transmission.	(5)
	b) Explain difference between Direct Sequence Spread Spectrum (DSSS) and Frequency Hopping Spread Spectrum (FHSS).	(5)
III	a) Explain differences between GEO and MEO Satellites.	(5)
	b) Explain Statistical Time Division Multiplexing in detail.	(5)
IV	a) Explain Characteristics and working of SS7 Signaling Protocol.	(5)
	b) Explain different advantages, disadvantages and applications of Microwave propagation.	(5)
PART -B		
V	a) In CSMA/CD network the data rate of 10 Mbps, the minimum frame size is 512 bits for the correct operation of collision detection process. What should be the minimum frame size if we increase the data rate to 100 Mbps and to 1 Gbps?	(5)
	b) Explain three levels of X.25 protocol standard.	(5)
VI	a) Explain Selective Repeat Sliding Window protocol in case of lost frame.	(5)
	b) Explain CRC error detection protocol of Data Link layer.	(5)
VII	a) Explain TCP/IP reference model in detail with diagram.	(5)
	b) Explain CDMA Channelization protocol with example.	(5)