Exam. Code: 0917
Sub. Code: 6786

1079
B. Engg. (Computer Science and Engineering)
5th Semester
CS-501: Data Communication and Networks

Time allowed: 3 Hours

Max. Marks: 50

NOTE: Attempt *five* questions in all, including Q. No. I (Part-A) which is compulsory and selecting atleast two questions each from Part-B & C.

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PART-A

I	i) The attenuation of a signal is -10 dB. What is final signal power if it was originally 5 W? (1)
	ii) How In-band signaling is different from out of band signaling? (1)
	iii) What is Fibre Channel? (1)
	iv) Briefly explain Dynamic alternate routing in circuit switched networks (1)
	v) List different components of a TDM switch. (1)
	vi) Briefly give the difference between DTE and DCE devices in X.25 Packet Switched Network. (1)
	vii) What is importance of Discard Eligibility (DE) bit in frame relay header? (1)
	viii) If the throughput at the connection between a device and transmission medium is 5Kbps, how long does it take to send 100,000 bits out of this device? (1)
	ix) Show the diagram for Bipolar AMI (Alternate Mark Inversion) encoding scheme for 010010. (1)
	x) What is 100Base-T4? (1)

PART-B

II	a) What is spread spectrum? Explain different types of spread spectrum with their diagrams.	(6)
	b) Explain Characteristics and working of SS7 Signaling Protocol.	(4)
III	a) Explain the differences between Ethernet, Fast Ethernet and Gigabit Ethernet.	(5)
	b) Explain Synchronous Time Division Multiplexing in detail.	(5)
IV	a) What is Frame Relay? Explain Frame Relay protocol architecture.	(7)
	b) A signal with 200 millwatts power passes through 10 devices, each with an average noise of 2 microwatts. What is SNR?	(3)

PART -C

V	a) What is difference between ARP protocol and RARP protocol in local area network?	(4)
	b) Explain Go Back-n Sliding window protocol in case of lost frame and lost acknowledgement.	(6)
VI	a) Explain differences between OSI Reference Model and TCP/IP reference model.	(5)
	b) 100 Stations on a pure ALOHA network share 1-Mbps Channel. If frames are 1000 bits long, Find the throughput if each station is sending 10 frames/sec.	(5)
VII	a) Explain differences between Narrow band ISDN and Broad band ISDN.	(5)
	b) Calculate Walsh Table W4 from W1 using W1 = [-1]. Also prove Orthogonal properties of Walsh chips for W4.	(5)

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