B.Tech Degree VII Semester (Supplementary) Examination in Electronics and Communication Engineering March 2003

EC 702 COMPUTER NETWORKS

(1995 Admissions)

Time: 3 Hours Maximum Marks: 100

I.	(a)	Compute the fourier coefficient for the function $f(t) = t\ (0 \le t < 1)$.	(10)
	(b)	Explain the different topologies used in computer networks.	(10)
		OR	
II.	(a)	With a neat diagram, explain the operation of a modem.	(10)
	(b)	What do you mean by a LAN ? Illustrate with help of a diagram.	(10)
III.	(a)	With a neat sketch, illustrate the seven layer architecture of a computer network.	(10)
	(b)	A channel has a bit rate of 4 kbps and a propagation delay of 20 ms. For what range of frame sizes does stop-and-wait gives an efficiency of at least 50 %.	(10)
		OR	
IV.	(a)	Explain in detail about the HDLC protocol.	(10)
	(b)	Illustrate the concept of synchronous and asynchronous data transmission schemes, and compare their performance.	(10)
V.	(a)	What are the common transmission media used for carrier sense network ? Illustrate with examples.	(10)
	(b)	Discuss the persistent and nonpersistent CSMA protocol in detail.	(10)
		OR	
VI.	(a)	What do you mean by ISDN ? Discuss its importance in detail.	(10)
	(b)	What are collision-free protocols ? Illustrate with examples.	(10)
VII.	(a)	Explain the various steps involved in the design of a LAN system for office use.	(10)
	(b)	Explain the use of switched multiplexer in a network.	(10)
		OR	
VIII.	(a)	What is the use of a serial data analyzer ? Explain.	(10)
	(b)	Explain the process of loop back testing.	(10)
IX.	(a)	Explain the terms : (i) Queuing time (ii) Waiting time (iii) Poissons law (iv) Probability density function.	(4 x 3 = 12)
	(b)	Discuss the performance of a multiserver system with a number of servers in parallel.	(8)
		OR	
X.		Write short notes on : (i) Perturbation heuristics. (ii) F T P (iii) Virtual terminal.	(8) (6) (6)

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