B. Tech Degree VIII Semester Examination, May 2006

EC/EB/EI/EE 803 COMPUTER NETWORKS

(Prior to 2002 Admissions)

Time : 3 Hours | Maximum Marks : 100

I.	(a)	Discuss different layers of ISO OSI model with figure.	(14)
	(b)	Discuss different Internet services.	(6)
		OR	
II.	(a)	Discuss different Network goals. What are the applications of Computer Networks?	(10)
	(b)	What is the need of layering? Discuss the information flow supporting virtual communication.	(10)
III.	(a)	The message $m = 1\ 0\ 1\ 0\ 0\ 0\ 1\ 1\ 0\ 1$ is to be transmitted using CRC code. The generator polynomial used as $x^5 + x^4 + x^2 + 1$. Find the frame check sequence.	(8)
	(b)	What is meant by error correcting codes? Explain with reference to Hamming codes.	(12)
		OR	
IV.	(a)	Discuss the difference between base band and broad band transmission.	(6)
	(b)	Explain the simplex stop and wait protocol for a noisy channel. What are the problems that can occur?	(8)
	(c)	Explain FDM and TDM.	(6)
V.	(a)	Explain different versions of carrier sense protocol.	(6)
	(b)	Discuss the difference between adaptive and non adaptive routing algorithm. Explain *any two* adaptive routing algorithms in detail.	(8)
	(c)	How is congestion controlled using choke packets?	(6)
		OR	
VI.	(a)	A computer on a 6 mbps network is regulated by a token bucket. The token bucket is filled at a rate of 1 mbps. It is initially filled to capacity with 8 mega bits. How long can the computer transmit at a full 6 mbps?	(10)
	(b)	Discuss the performance of 802.3 LAN under conditions of heavy and constant load.	(10)
VII.	(a)	How does the transport layer release a connection? What are the problems that can occur and how are they handled?	(6)
	(b)	Explain how the X.25 protocol is related to the ISO standard and why X.25 is used in some cases rather than the ISO Network scheme.	(5)
	(c)	Give X.25 protocol packet formats for – (i) Call request (ii) Control packet (iii) Data packet.	(9)
		OR	
VIII.	(a)	What are the similarities and differences between a session and a transport connection?	(6)
	(b)	Explain flow control and buffering in the transport layer.	(7)
	(c)	Discuss Remote Procedure Call (RPC).	(7)
IX.	(a)	Write note on network security and privacy.	(5)
	(b)	Discuss RSA algorithm in cryptography.	(7)
	(c)	Explain substitution cipher and transposition cipher with example.	(8)
		OR	
X.	(a)	Explain in detail the different data compression techniques.	(8)
	(b)	Write notes on : (i) Email (ii) ftp (iii) virtual terminal.	(12)

***