B. Tech Degree VI Semester Examination, April 2010

CS/IT 606 COMPUTER NETWORKS

(2006 Scheme)

Time : 3 Hours Maximum Marks : 100

PART A

(Answer ***ALL*** questions)

(8 x 5 = 40)

I. a. Compare and contrast ISO/OSI and TCP/IP reference model.

b. Explain the relevance of standards and protocols in computer networks.

c. Explain transport layer multiplexing and demultiplexing. Also give its benefits.

d. Explain fragmentation and reassembly. Also show the fragmentation of the given unfragmented packet if MTU of a network it has to cross is 532 bytes.

Start of Header				
Identification=X			0	Offset = 0
Rest of Header				
1400 bytes				

e. Write short note on
(i) CDMA
(ii) TDM

f. Explain various framing methods.

g. Write notes on any three guided transmission media

h. Discuss in brief about
(i) Ethernet
(ii) Fast Ethernet
(iii) Gigabit Ethernet

PART B

(4 x 15 = 60)

II. Explain

(i) DNS
(ii) HTTP
(iii) RPC (15)

OR

III. Explain ISO/OSI reference model in detail. (15)

(Turn over)

IV. a. Explain TCP segment structure with suitable diagram. (8)

b. Illustrate the calculation of checksum for the given UDP segment (7)

1087		13	
15		?	
I	N	D	I
A	N	S	

Where the hexadecimal code for I, N, D, A & S are 49, 4E, 44, 41 &53 respectively. Use following pseudo header.

153.18.8.105		
172.2.14.10		
0	17	15

OR

V. a. Explain IP segment structure in detail. Use necessary diagrams (10)

b. Discuss about the subfields of 'types of services' field in IP header. (5)

VI. a. A series of 8 bit message block is to be transmitted across a data link using CRC for error detection using 11001 as generator polynomial and 11100110 as message polynomial show

(i) FCS generation process

(ii) FCS checking process for no error (10)

b. Discuss about error detection and error correction. (5)

OR

VII. Discuss the following routing algorithms in detail. Use suitable diagram.

(i) Link state routing

(ii) Distance vector routing (15)

VIII. a. Explain five digital encoding techniques in detail. (10)

b. Discuss briefly about FDDI. (5)

OR

IX. a. Explain SONET. (5)

b. Write TCP/IP socket program to implement ECHO (write both client & server) in C. (10)

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