

M.E. DEGREE EXAMINATIONS: NOVEMBER 2009

Third Semester

POWER ELECTRONICS AND DRIVES

P07PEE 02 Computer Communication and Networks

Time: Three Hours

Maximum Marks: 100

Answer ALL Questions:-

PART A (10 x 2 = 20 Marks)

1. What is meant by layered protocol?
2. Distinguish between bit rate and bandwidth
3. Carrier-Sense Multiple Access protocols share a communication medium (such as a bus) by sensing when the medium is not being used before transmitting. Despite this, collisions still occur. Why?
4. What is a flow control?
5. Distinguish between forward search and backward search algorithm.
6. What does the X.25 standard define?
7. What is meant by steady-state distribution of Markov chain?
8. For model, write down the formula for
 - (a) Average number of customers in the queue
 - (b) Average waiting time in the system.
9. What is the Huffman code no-prefix property
10. What is the purpose of using key escrow agents to hold the keys used in the Skip jack algorithm.

PART B(5 x 16 = 80 Marks)

- 11 (a) Write short notes on the following (4x4)
- (i) Circuit Switching
 - (ii) Message Switching
 - (iii) Packet Switching
 - (iv) Upward and Downward Multiplexing

(OR)

- (b) Write short notes on the following :- (4x4)
- (i) Conductive Metal
 - (ii) Optical fibre
 - (iii) Microwave Transmission
 - (iv) Satellite Transmission

- 12 (a) Compare and explain the following IEEE-802 MAC layer protocols.
(i) CSMA/CD bus (ii) Token ring and (iii) Token bus

(OR)

- (b) Derive the expressions for link utilization of
(i) Stop and wait and (ii) Sliding window ARQ protocols.
- 13 (a) Explain Bell Man Ford Algorithm with an example

(OR)

- (b) Write short notes on the following :- (4x4)
- (i) Overview of TCP/IP
 - (ii) Internet Addressing
 - (iii) Domain Name Systems
 - (iv) IP Packets

- 14 (a) Explain the following.
- (i) Truncation of independent single class systems.
 - (ii) Blocking probabilities for circuit switching systems.

(OR)

- (b) Explain M/G/1 system
- 15 (a) Suppose you intercepted the following encrypted system

20 5 21 3 49 4 49 3 4 15

You also know that the encryption key is $k = 7$ and that it was determined using $n = 55$. Decrypt this message. Assume A through Z were initially coded using 1 through 26 and a blank was initially coded using 27.

(OR)

- (b) Write short notes on the following :- 8
- (i) Simple Mail Transfer Protocol (SMTP) 8
 - (ii) Virtual Terminal
