CBCS SCHEME

USN ☐☐☐☐☐☐☐☐☐☐

15EC64

Sixth Semester B.E. Degree Examination, June/July 2018
Computer Communication Networks

Time: 3 hrs.   Max. Marks: 80

Note: Answer any FIVE full questions, choosing one full question from each module.

Module-1

1 a. Explain the significance of layers in TCP/IP protocol suite with neat diagram. **(08 Marks)**
   b. Illustrate with an example byte stuffing and bit stuffing. **(04 Marks)**
   c. Explain briefly four physical topologies of a network. **(04 Marks)**

OR

2 a. Explain ARP operation and ARP packet format with a neat diagram. **(08 Marks)**
   b. Describe the operation of STOP and WAIT protocol also FSM for STOP and WAIT protocol. **(08 Marks)**

Module-2

3 a. Explain the three strategies used in CSMA/CA collision avoidance. **(06 Marks)**
   b. A pure ALOHA network transmits 200 bit frames on a shared channel of 200 kbps. What is the throughput if the system produces (i) 1000 frames per sec (ii) 500 frames per sec (iii) 250 frames per sec. **(04 Marks)**
   c. With a neat diagram explain Ethernet frame format. **(06 Marks)**

OR

4 a. Describe persistence methods in CSMA with flow diagram. **(06 Marks)**
   b. Write short notes on 10 Base 5 Ethernet and 10 Base 2 Ethernet. **(06 Marks)**
   c. Describe Polling in controlled access method. **(04 Marks)**

Module-3

5 a. Explain Hidden station problem in wireless networks. **(05 Marks)**
   b. Describe Spanning Tree Algorithm with an example. **(06 Marks)**
   c. Explain Datagram approach in connectionless service to route the packet. **(05 Marks)**

OR

6 a. With a neat diagram describe the two kinds of services defined by wireless architecture. **(05 Marks)**
   b. Explain with a neat diagram VLAN, membership and configuration of VLAN. **(06 Marks)**
   c. Explain a simple implementation of Network Address Translation (NAT) and address translation with a neat diagram. **(05 Marks)**

Module-4

7 a. Explain IPV4 Datagram format. **(08 Marks)**
   b. Explain with an example distance vector routing algorithm. **(08 Marks)**

OR

8 a. Explain with a neat diagram the three phases in Mobile host communication. **(08 Marks)**
   b. Explain with an example link state routing and also apply Dijksthra algorithm to find least cost path tree. **(08 Marks)**

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Module-5

9 a. Explain why the send window size for Go-Back N must be less than 2^m. **(05 Marks)**
    b. Explain sending and receiving buffers in TCP. **(05 Marks)**
    c. With a neat diagram explain TCP segment format. **(06 Marks)**

OR

10 a. Explain why the size of the send and receiver window in selective repeat can be atmost one half of 2^m. **(05 Marks)**
    b. Discuss the general services provided by UDP. **(05 Marks)**
    c. Explain with a neat diagram connection establishment using three way handshaking in TCP. **(06 Marks)**

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