

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 Dijkstra algorithm to find least cost path tree. (08 Marks)

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)