

CBCS SCHEME

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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)

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 at most 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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