



CBCS SCHEME

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15EC64

Sixth Semester B.E. Degree Examination, Jan./Feb. 2023 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. Define data communication. What are the differences between half-duplex and full duplex transmission media? (08 Marks)
- b. Identify five components of a data communication system and explain. (08 Marks)

OR

- 2 a. Explain TCP/IP protocol suite. (08 Marks)
- b. What is framing? Explain bit-stuffing with an example. (08 Marks)

Module-2

- 3 a. Write the flow diagram of following random access protocols and explain:
(i) ALOHA
(ii) CSMA/CD
(iii) CSMA/CA (09 Marks)
- b. A pure ALOHA network transmits 200 bits frames on a shared channel of 200 kbps. What is the throughput if the system (all station together) produces:
(i) 1000 frames per second
(ii) 500 frames per second
(iii) 250 frames per second (07 Marks)

OR

- 4 a. Define controlled access and explain the following controlled access methods:
(i) Reservation
(ii) Polling
(iii) Token passing (08 Marks)
- b. What are the common Gigabit Ethernet implementations? Explain. (08 Marks)

Module-3

- 5 a. What are the differences between classfull addressing and classless addressing in IPV4? Explain the classfull addressing schemes. (08 Marks)
- b. What is NAT? Explain how address translation is done in NAT. (08 Marks)

OR

- 6 a. Write the DHCP message format and explain working of DHCP. (08 Marks)
- b. What is Bluetooth? Explain Bluetooth architecture and frame format. (08 Marks)

Module-4

- 7 a. Define fragmentation and explain fragmentation process. (08 Marks)
- b. What is ICMP? Explain ICMP message format. (08 Marks)

Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.
2. Any revealing of identification, appeal to evaluator and /or equations written eg, 42+8 = 50, will be treated as malpractice.

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OR

- 8 a. Explain the two internet debugging tools that use ICMP. (08 Marks)
b. With suitable diagram, explain distance vector routing. (08 Marks)

Module-5

- 9 a. What are the possible ambiguities in stop and wait ARQ protocol? (03 Marks)
b. With suitable flow diagram, explain what is the send window size and receive window size required for Go-Back-N protocol. (07 Marks)
c. Explain the concept of piggybacking technique. (06 Marks)

OR

- 10 a. With a neat diagram, explain briefly connection establishment, data transfer and connection termination in TCP. (10 Marks)
b. Give the comparison between TCP and UDP. (06 Marks)
