

CBCS SCHEME

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18EC71

Seventh Semester B.E. Degree Examination, Feb./Mar. 2022

Computer Networks

Time: 3 hrs.

Max. Marks: 100

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

Module-1

- 1 a. Describe significant services of all layers in TCP/IP protocol suite along with the encapsulation and decapsulation processes with necessary figures. (16 Marks)
b. List different performance criteria of a network. (04 Marks)

OR

- 2 a. Explain different physical structures and networks topologies with the help of diagrams. (16 Marks)
b. Distinguish TCP/IP model with OSI model. (04 Marks)

Module-2

- 3 a. Describe various fields in the format of an ARP packet and explain how ARP sends request and response messages. (12 Marks)
b. Write short notes on implementation of standard Ethernet topologies. (08 Marks)

OR

- 4 a. Describe the concept of bit stuffing and byte stuffing. (10 Marks)
b. Explain CSMA/CD working with the help of flowchart. (06 Marks)
c. List the characteristics of wireless LANs. (04 Marks)

Module-3

- 5 a. Explain working of DHCP [Dynamic Host Configuration Protocol]. (08 Marks)
b. Inspect the following MAC addresses and categories them as unicast, multicast and broadcast. (04 Marks)
i) 4A : 30 : 10 : 21 : 10 : 1A
ii) 47 : 20 : 1B : 2E : 08 : EE
iii) EF : FF : 10 : 01 : 11 : 00
iv) FF : FF : FF : FF : FF : FF (08 Marks)
c. Explain IPV4 datagram format with a neat diagram. (08 Marks)

OR

- 6 a. Explain a simple implementation of Networks Address Translation (NAT). (10 Marks)
b. Explain distance vector routing algorithm using Bellman ford equations. (10 Marks)

Module-4

- 7 a. Describe connectionless and connection – oriented services provided by the transport layer. (14 Marks)
b. Describe the general services provided by UDP. (06 Marks)

OR

- 8 a. Explain working of Go-back-N protocol. (10 Marks)
b. Describe sending and receiving buffers in TCP, and explain how segments are created from the bytes in the buffers. (10 Marks)

Module-5

- 9 a. Explain the architecture and format of electronic mail. (10 Marks)
b. Distinguish Local Logging and Remote Logging. (10 Marks)

OR

- 10 a. Explain persistent and non-persistent connections in HTTP. (10 Marks)
b. Write a short note on DNS recursive and iterative resolutions. (10 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.