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.
      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   **(04 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 form 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)**

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