P-826

Roll No. ....

MCA-19

Data Communication and Computer Networks

Master of Computer Application (MCA)

5th Semester Examination, 2023 (June)

Time : 2 Hours]   **[Max. Marks : 70**

Note : This paper is of Seventy (70) marks divided into two (02) Sections A and B. Attempt the questions contained in these sections according to the detailed instructions given therein. Candidates should limit their answer to the questions on the given answer sheet. No additional (B) answer sheet will be issued.

SECTION–A
(Long Answer Type Questions)

Note : Section 'A' contains Five (05) long answer type questions of Nineteen (19) marks each. Learners are required to answer any Two (02) questions only.

$(2×19=38)$

1. What do you understand about communication protocols ? How they help in creating a Network. What are the major hardware components of the Local Area network?

2. Explain different layers in the OSI Model. Also, explain the layers of the TCP/IP model. Distinguish between TCP/IP and OSI reference models. Which model is more popular and why ?

3. Explain about token bus and token ring networks. Explain the implementation of polling and token passing.

4. What is HDLC, explain? Explain about its Configurations, frame format and Transfer Modes in detail.

5. List any four Networking Connecting Devices and explain their function. Explain about Routing Algorithms. Distinguish between two Distance vector routing - Link state routing.

SECTION–B
(Short Answer Type Questions)

Note : Section 'B' contains Eight (08) short answer type questions of Eight (08) marks each. Learners are required to answer any Four (04) questions only.   (4×8=32)

1. What is cyclic code and explain Cyclic Redundancy Check (CRC) code?

2. Define Guided & Unguided Transmission Medium.

3. Write about Stop and wait protocol, Go-Back-N ARQ protocol and Selective Repeat ARQ protocol.

4. Draw and describe the process of data communication in: (i) Simplex mode (ii) Half Duplex iii) Full Duplex.

5. Name the ATM layers and their functions. What are the four SONET layers? Why is SONET called a synchronous network?

6. Explain CSMA/CD protocol.

7. Discuss Data link layer protocols. Explain IPv6 the network layer protocol.

8. What is the difference between twisted pair and untwisted pair network?

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