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MCA/M-14 **10202**

COMPUTER NETWORK & DATA COMMUNICATION

Paper–MCA-202

Time Allowed : 3 Hours] [Maximum Marks : 80

Note : Attempt **five** questions in all, selecting at least **one** question from each Unit. Question No. 1 is compulsory. All questions carry equal marks.

Compulsory Question

1. (a) Explain the three major functions of Presentation layer. 3×8=24

   (b) What are the two queues needed at each station in DQDB?

   (c) Compare the performance of Pure ALOHA and Slotted ALOHA.

   (d) How is Crash recovery performed in the transport layer?

   (e) Explain how clock Synchronization can be achieved using differential Manchester encoding.

   (f) Give some applications where UDP is preferred over TCP.

   (g) Identify the class and subnet mast of IP address 217.56.9.2.

   (h) What is Load shedding?

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UNIT–I

2. (a) Explain the protocols that are defined at the transport layer of the TCP/IP reference model. 7

   (b) Discuss the classification of Networks according to their size. 7

3. (a) Discuss about transmissions in ATM networks. 7

   (b) With the help of appropriate examples explain various types of connection oriented and connection less services. 7

UNIT–II

4. (a) Give the physical description of twisted pair and coaxial cable and bring out its characteristics and applications. 10

   (b) What is the function of a Null Modem? Show the internal connections used within a Null modem and explain the significance of each connection. 7

5. (a) Discuss the concept of switching as it relates to the problems involved in the connection of devices. 7

   (b) What are the two types of TDM implementations and how do they differ from each other? 7

UNIT–III

6. (a) How persistent and nonpersistent CSMA protocols are an improvement over ALOHA protocol? 10

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(b) What are the different types of error detection methods? Explain the CRC error detection technique using generator polynomial $x^4 + x^3 + 1$ and data 11100011. 7

7. (a) Compare Go-Back-NARQ and Selective repeat ARQ. 7

(b) How token ring employes token passing as its method of transmission initiation? Also discuss the different types of framws used. 7

UNIT–IV

8. (a) How Hierarchical routing reduces the size of routing table? 7

(b) What is Reverse Path Forwarding? How it helps in Broadcasting? 7

9. (a) What is distance vector routing and also explain the algorithm used to implement it. 7

(b) How can the leaky bucket control bursty input? 7

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