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M. Tech 1st Semester Examination

Design of Data Communication Network

EC-103

Time : 3 Hours   Max. Marks : 100

The candidates shall limit their answers precisely within the answer-book (40 pages) issued to them and no supplementary/continuation sheet will be issued.

Note : Attempt any five questions.

1. (a)   Explain different physical network topologies in detail.

    (b)   What do you mean by a protocol? Explain its key elements.   (10×2=20)

2.   Give the detailed description of OSI model. Explain the interactions between different layers in the OSI model by taking an example.   (20)

3. (a)   Give comparison of different types of switching schemes in communication networks.

    (b)   Explain flow control & error control in reference to data link layer.   (10×2=20)

4. (a)   Differentiate between CSMA/CD and CSMA/CA. Give detailed explanation of each difference point.

    (b)   Explain the detailed block diagram structure for FDMA.   (10×2=20)

5.   Describe in detail the addressing structure for IPV4.   (20)

6. (a) Explain the design goals of ATM networks.

    (b) Explain architecture of an ATM network.   (10×2=20)

7. Explain why X.25 was not so successful. What lead the organizations to go for Frame Relays. Justify your answer.
                                                        (20)

8. Write short notes on:

    (a) Encapsulation.

    (b) Unix Operating System.

    (c) Transport Layer.

    (d) TCP/IP model.   (5×4=20)