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MCA/MX 5252

Computer Networks & Data Communication

Paper: MCA-202

Time: Three Hours] [Maximum Marks: 80

Note:- Question No.1 is compulsory. In addition to this attempt FOUR questions by selecting ONE question from each Unit.

1. (a) Differentiate between connection- oriented and connection-less protocols.

(b) What is Nyquist theorem? State its significance.

(c) What is Differential Manchester encoding? Discuss its relevance.

(d) What is FDDI? What is its role?

(e) Differentiate between ADSL and Cable.

(f) What is multi cast routing? Discuss its significance.

(g) What is virtual circuit? Discuss its relevance.

(h) What do you understand by limited Contention Protocols? Discuss their role. 8x3=24

UNIT -I

2. (a) What is 'Network Topology'? What are various types of network topologies? Discuss benefits and limitations of these topologies over one another. 7

(b) What is OSI reference model? Explain the model by detailing out all important features. 7

3. Explain the following:

(a) X.25 7

(b) ATM 7

UNIT-II

4. (a) Differentiate between circuit switching and packet switching. 5

(b) What is multiplexing? What are various types of multiplexing techniques? Illustrate 9

5. Explain the following:

(a) Satellite communication 7

(b) Transmission impairments. 7

UNIT-III

6. (a) Data link protocols almost always put the CRC in a trailer rather, than in a header. Why? 7

   (b) What are sliding window protocols? Illustrate their working along with significance. 7

7. Explain the following:

   (a) IEEE 802.3 7

   (b) Collision free protocols. 7

UNIT-IV

8. What is routing? What are routing algorithms? Which routing algorithm is the most popular? Illustrate its working and justify its acceptability. 14

9. Explain the following:

   (a) Load shedding 7

   (b) Routing in Adhoc Networks. 7