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CS-09

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ADCA / MCA (II Yr)

Term-End Examination

December, 2010

CS-09 : DATA COMMUNICATION AND NETWORKS

Time : 3 hours *Maximum Marks : 75*

Note : *Question number **1** is **compulsory**. Answer **any three** questions from the rest.*

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1. (a) What is count-to-infinity problem in distance vector routing algorithm ? How does it happen ? Explain with an example. **6**

(b) Differentiate between guided and unguided transmission media. Also, give an example for each. **5**

(c) Explain the working of a Sliding Window Protocol with the help of an example. **5**

(d) An analog signal is limited to a 4 kHz. It is converted to PCM signal using 8 bits/ sample. What is the bit rate on the transmission line ? **5**

(e) What are the disadvantages of circuit switching ? How these disadvantages are improved or rectified by packet switching ? Explain. 5

(f) Explain the need of bit-stuffing in data link protocols. Also, give an example. 4

2. (a) What is differential phase shift keying ? Explain its advantages in comparison to normal phase shift keying. 5

(b) Calculate the CRC for bit sequence 1100101101001 and the generator polynomial is 1011. 5

(c) Why are both virtual circuit and virtual path used in ATM networks and how are they switched ? 5

3. (a) Explain the working of FDDI and its priority scheme. 6

(b) Compare and contrast the delivery of data units in the data link, network and transport layer. 9

4. (a) What is X.25 ? Explain its error control and flow control mechanism. 5

(b) Explain the various addressing classes in IPV4 Protocol. 5

(c) Explain, how is data transferred using token ring protocol ? 5

5. Write a short note on the following : 15

(a) Link State Routing

(b) RSA Algorithm.

(c) CSMA/CD