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CS-09

00601

ADCA / MCA (II Yr)

Term-End Examination

December, 2011

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.*

1. (a) What happens in a token bus network if a station accepts the token and then crashes immediately ? How does protocol handle this situation ? **10**

(b) State Nagle's algorithm and explain how does it reduce the wastage of bandwidth ? **10**

(c) What is meant by error detection and correction code ? Explain the operation of CRC on following data. **10**

Message : 1100101011001010

Generator : 101

2. (a) Explain Bellman - ford shortest path algorithm with the help of an example. **10**

(b) Differentiate between Baseband signal and Broadband signal. **5**

3. (a) Explain the operation of Internet congestion algorithm through appropriate diagram. Also, explain the purpose of the following parameters : 9

(i) Congestion window

(ii) Slow start

(iii) Threshold

(b) Explain any two reasons for having a minimum frame length in CSMA/CD. 6

4. (a) Explain the purpose of the following fields in CSMA MAC frame formation : 10

(i) Preamble

(ii) Start frame delimeter

(iii) Source address

(iv) Length

(v) Pad

(b) What is DNS ? How does it map in IP address ? 5

5. (a) Obtain expression for throughput in ALOHA and slotted ALOHA protocols. 10

(b) What is the application of Network Address Translation Box ? Also, explain its operation. 5