Total No. of Questions :8] *[Total No. of Printed Pages : 2*

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MCA-305

MCA. III Semester

Examination, June 2017

Computer Networks

Time : Three Hours

Maximum Marks : 70

Note: i) Attempt any five questions out of Eight.

ii) All questions carry equal marks.

1. a) A network using CSMA/CD has a bandwidth of 10 mbps. If the maximum propagation time including the delays in the devices and ignoring the time needed to send a jamming signal is 25.6 μsec. What is the maximum size of the frame?

   b) With examples, differentiate between simplex, half duplex and full duplex communication.

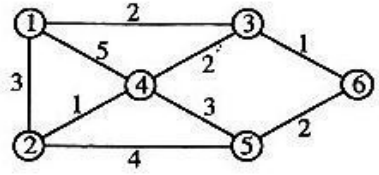
2. a) A digital signal has a bit interval of 40 microseconds. What is the bit rate? Express the bit rate in kbps.

   b) Explain the working of carrier sense multiple Access protocol.

3. a) Compare IEEE standards 802.3 and 802.4 with reference to frame format.

   b) Explain FDDI Protocol.

4. a) Find shortest path tree from node 5 to all nodes and also find the associated routing table entries for node 5 using Dijkstra's algorithm.



   b) Explain the following

      i) Congestion and Deadlock

      ii) Broad casting and multicasting

5. a) How will you transmit the packets by using Data gram approach? Explain in detail with a neat diagram.

   b) Explain Bell man-ford Algorithm.

6. a) How is IP address space divided into different classful addresses?

   b) Discuss how TCP provides reliability using error control.

7. a) Discuss how simple mail Transfer protocol works? Can multimedia messages be transmitted using SMTP Discuss.

   b) Explain Virtual terminal protocol.

8. a) Explain forward error correction techniques with examples of Hamming code.

   b) Explain sliding Window Protocol briefly.

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