Register Number: ……………………..

MCA DEGREE EXAMINATIONS: APRIL/MAY 2014

(Regulations 2009)

Third Semester

MASTER OF COMPUTER APPLICATIONS

MCA510: COMPUTER NETWORKS

Time: Three Hours   **Maximum Marks: 100**

Answer all the Questions:-

PART B (10 x 2 = 20 Marks)

1. Define CSMA/CD.

2. Differentiate between half-duplex and full-duplex

3. Differentiate between broadcast address and multicast address in Ethernet

4. What are the advantages of using star topology?

5. At which level of OSI model does repeaters, bridges, routers and gateways operate?

6. Which class does the following IP address belong to?

   (a) 134.11.78.56   (b) 228.12.14.87

7. Draw the frame format for UDP.

8. Write a formula for computing average queue length in RED.

9. List out three types of frames in MPEG compression

10. State the three phases of Data Encryption Standard

PART C (5 x 16 = 80 Marks)

11. a)   Discuss in detail about requirements for building computer network

(OR)

    b) (i)   Explain the various functions of each layers in OSI model.   (8)

        (ii) Discuss about error detection techniques   (8)

12. a) (i)   Discuss in detail about Ethernet 802.3with neat diagram.   (8)

        (ii) Explain about common network topologies   (8)

(OR)

    b)   Discuss in detail about token rings (805.5) network

13. a) (i)   Discuss about the spanning tree algorithm   (6)

        (ii) Draw the frame format for IPV$_6$ and explain its each field.   (10)

(OR)

    b)   Write a short note on the following

        (i)   Distance vector(RIP)   (10)

        (ii) Subnetting   (6)

14. a)   Discuss the following concepts in reliable byte stream using TCP

        (i)   TCP Connection establishment and termination   (8)

        (ii) TCP Congestion Control.   (8)

(OR)

    b)   Explain in detail about TCP congestion-avoidance mechanisms

15. a)   Explain about various types of presentation formatting used in Computer Networks.

(OR)

    b) (i)   Explain in detail about DES cryptographic algorithm   (8)

        (ii) Discuss about SMTP, MIME and IMAP protocols for exchanging electronic   (8)
              mail   message

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