Register Number:……………………..

MCA DEGREE EXAMINATIONS: NOV/DEC 2014

(Regulation 2009)

Third Semester

MASTER OF COMPUTER APPLICATIONS

MCA 510**:** Computer Networks

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

Answer all the Questions:-

PART A (10 x 2 = 20 Marks)

1. Write the importance of network layer in OSI model.
2. Distinguish between broadcasting and multicasting.
3. What is the use of frame check sequence bit in 802.5 token ring frame format.
4. Give the significance of collision avoidance in wireless networks.
5. What is subneting?
6. When bridges and router/switches are required for creating LAN/WAN?
7. List out the impact of network congestion.
8. What is socket?
9. State the purpose of Data Compression.
10. Which protocol support E-mail on the internet?

PART B (5 x 16 = 80 Marks)

11. a)   Diagrammatically illustrate and discuss the functionalities of OSI/ISO modal.

(OR)

b)   (i)   Explain the working principal of CRC algorithm with an example.   (8)

     (ii)   Discuss in detail about stop-and-wait algorithm.   (8)

12. a)   Discuss elaborately about Ethernet (IEEE 802.3) technology with neat diagram.

(OR)

b)   With diagrammatic illustration, discuss Ring, Star, Bus and Tree topologies.

13. a)   Explain in detail about learning bridges and its implementation.

(OR)

b)   Explain in detail about distance vector routing protocol.   (8)

Explain the various fields in IP Version 6 packet format.   (8)

14. a)   Discuss in detail about the functions of UDP with suitable example.

(OR)

b) (i)   Discuss connection establishment and Connection Release in TCP.   (8)

(ii)   Explain the working of RED congestion avoidance mechanism.   (8)

15. a)   With relevant example, discuss RSA algorithm used in Cryptography.

(OR)

b) (i)   Discuss in detail about Domain Name service.   (8)

(ii)   Explain how message transfer is done using SMTP?   (8)

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