

MCA DEGREE EXAMINATIONS: NOV/DEC 2010

Third Semester

MASTER OF COMPUTER APPLICATIONS

MCA510: Computer Networks

Time: Three Hours

Maximum Marks: 100

**Answer ALL Questions:-
PART A (10 x 2 = 20 Marks)**

1. What are the advantages of layering?
2. State any two performance metrics for a network.
3. What is the significance of CTS in MACA?
4. List the features of IEEE 802.11.
5. What are the limitations of bridges?
6. What are the components of IP service model?
7. What is the need for having simple demultiplexer in transport protocol?
8. State the functions of sliding window protocol.
9. What are the two types of conversion strategy used by marshaller?
10. What do you mean by stub?

PART – B (5x16 = 80 Marks)

11. a) Explain in detail about OSI network architecture with a neat sketch.
(OR)
b) Discuss about the basic building blocks of a network with needed diagrams.
12. a) What do you mean by collision? With the help of a diagram explain the collision avoidance protocol adopted in a wired and wireless LAN.
(OR)
b) (i) Draw the FDDI frame format and give a brief note on its fields. (8)
(ii) Describe the working of MAC protocol in a token ring. (8)
13. a) With a neat sketch explain the format of IPv4 packet header.
(OR)
b) Describe in detail about concept and implementation of distance vector routing algorithm. Consider a typical network topology and show the path taken for a specified source and destination based on distance vector along with needed tables.
14. a) Describe in detail about TCP state transition diagram.
(OR)
b) How do TCP guarantees reliable delivery of data? Discuss any two adaptive retransmission algorithms.
15. a) State the difference between lossless and lossy compression algorithm. Explain in detail about lossless compression algorithms.
(OR)
b) Explain RSA algorithm with example. Discuss its computational aspects for different operations.
