MCA 3rd Semester Examination
Jan. 2014
Subject – Computer Network
Subject Code – CAL-609

Time Allowed: 03 hours. Maximum Marks: 100

Before answering the question paper the candidate should ensure that they have been supplied the correct question paper. Complaints in this regard, if any, shall not be entertained after the examination.

Note: Question No. 1 is Compulsory and attempts any two questions from each section. All questions carry equal marks.

1. (a) What are the responsibilities of data link layer? 
(b) How does NRZ-L differ from NRZ-I? 
(c) For n devices in a network, what is the number of cable links required for a mesh and ring topology? 
(d) What are the advantages & disadvantages of secret key encryption?

SECTION A

2. What is ISO-OSI reference model for network architecture? How is this model useful in network design? Discuss in brief the important functions of the different layers in the model.

3. (a) What type of media can be used at the physical layer of a LAN? Discuss their advantages and disadvantages.
   (b) Write down the different classes of IP addresses. How many host in class A, B, and C network addresses can exist?

SECTION B

4. Describe three different types of switching methods (Circuit/Message/Packet) with proper diagram.

5. (a) What is MAN? Explain its topology with the help of suitable diagram and also write the various advantages of MAN.
   (b) How congestion is controlled in TCP? Explain.

6. Explain the two types of firewall known to you. What is VPN and why it is needed?

7. (a) Write down the difference between cryptography and steganography with examples.
   (b) What is “Network Security”? Explain how Cryptography can help in security of Information.