Exam. Code : 206701
Subject Code : 5172

M.Sc. Computer Science 1st Semester

MCS-103 : NETWORK DESIGN & PERFORMANCE ANALYSIS

Time Allowed—3 Hours] [Maximum Marks—100

Note :— Attempt any ***five*** questions.

1. (a) "One of the most important aspects of data communications networking is time and delay consideration." Elaborate.

   (b) Compare and contrast : Circuit-, Message-, Packet- and Cell-Switching Methods in data communication. 10,10

2. What is traffic engineering ? "Network planning and traffic engineering are two faces of the same problem." Discuss. 20

3. What is meant by network optimization ? Explain various measurements for network optimization. Elaborate at least ONE technique for network optimization. 20

4. What is Access Network Design ? How is this different from Backbone Network Design ? Define the procedure for Access Network Design. 20

5. What are the guidelines for the RFI/RFP (Request for Proposal/Information) process and criteria for selecting a service provider and future relationship with them ? 20

6. What is the need of Network Security ? Explain the importance of protecting the network. Can network protocols help with the growing problem of network security in the future ? How do you think ? 20

7. What is RMON and when is it used ? How is RMON related to SNMP ? What are the SNMP protocol operations and what SNMP component could invoke each one ? 20

8. Write short notes on :

   (a) Network Tuning and its importance

   (b) Network Performance Modeling and its need. 10,10