

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 ? http://www.gnduonline.com 20
8. Write short notes on :
 - (a) Network Tuning and its importance
 - (b) Network Performance Modeling and its need. 10,10