Exam. Code : 208602
Subject Code : 4830

M.Sc. Information Technology 2nd Semester

NETWORK DESIGN & PERFORMANCE ANALYSIS

Paper : MIT-205

Time Allowed—2 Hours] [Maximum Marks—100

Note :— There are **Eight** questions of equal marks. Candidates are required to attempt any **Four** questions.

1. (a) Explain different technical requirements for designing a network.
   (b) How time and delay characteristics affect the network performance ? Explain.
2. (a) What is meant by capacity planning ? Explain the traditional methods used for traffic engineering.
   (b) Discuss the method for modelling queued data switched traffic.
3. (a) Explain different services used for frame and cell switching.
   (b) Compare and contrast any two protocols used for high speed LAN.
4. Expalin the following concepts for choosing the network technology :
   (a) Response time and delay tolerance
   (b) Selecting Vendor and Service levels.

5. (a) How performance modelling is carried out for a network ? Explain the role of traffic matrix for measuring network performance.
   (b) Discuss different types of design projects used for network modelling.
6. Write notes on the following concepts :
   (a) Backbone Segments
   (b) Network Topologies.
7. How network security is ensured ? Explain different methods used for ensuring network security.
8. Explain the following concepts for network optimization :
   (a) Measurement for Network Optimization
   (b) Optimization Techniques.