Exam. Code : 206701
Subject Code : 4678

M.Sc. Computer Science 1st Semester

NETWORK DESIGN & PERFORMANCE ANALYSIS

Paper–MCS–103

Time Allowed—3 Hours] [Maximum Marks—100

Note :— Attempt **five** questions, selecting at least **one** question from each Section and the **fifth** question may be attempted from any Section. All questions carry equal marks.

SECTION–A

1. What are the system requirements of planning a network ? Discuss the role of design tools for measuring network performance. 20

2. (a) How traffic sizing and delay consideration are used in networks ? Explain. 10

   (b) Discuss the procedure for creating traffic matrix in distributed systems. 10

SECTION–B

3. (a) Explain the concept of capacity planning in traffic engineering. 10

   (b) Discuss the role of different types of designs for peak and latency in traffic modeling. 10

4. Discuss the following concepts :

   (a) Traffic engineering. 10

   (b) Traffic characteristics. 10

SECTION–C

5. (a) How private networking can be compared with public networking ? Explain. 10

   (b) Compare the throughput, burstiness and delay tolerance. 10

6. (a) Compare frame and packet switching services. 10

   (b) Differentiate High speed LANs and wireless networks. 10

SECTION–D

7. How security in networks system is achieved ? Discuss the procedure for implementing the cryptographic algorithms. 20

8. Write short notes on the following :

   (a) Network Management. 10

   (b) RMON. 10