

Total No. of Questions : 12]

SEAT No. :

P3555

[Total No. of Pages : 3

[4959] - 1155

B.E. (Computer Engineering) (Semester - I)

Computer Network Design and Modeling

(2013 Pattern) (Elective - I)

Time : 2 1/2 Hours]

[Max. Marks : 70

Instructions to the candidates:

- 1) *All questions are compulsory.*
- 2) *Neat diagrams must be drawn wherever necessary.*
- 3) *Figures to the right indicate full marks.*
- 4) *Assume suitable data, if necessary.*

Q1) a) Explain different performance characteristics of network. **[4]**

b) Why it is important to explore traffic behavior when designing a network?
[4]

OR

Q2) a) What are the different challenges of network design? **[4]**

b) List and explain the different skill of network manager. **[4]**

Q3) Explain “Requirement gathering and Analysis while designing a network”.
[6]

OR

Q4) Write a note on:

a) Developing RMA. **[3]**

b) Threshold and limit. **[3]**

P.T.O.

Q5) If “Flows of type 1 involve the frequent passing of 1-2 MB sync files with delays on the order of HRT, 10-100 MB update files on the order of 1 second, and final data sets of 500 MB-1 GB on the order of minutes to hours, with up to two tasks running concurrently”. Then **Estimate a range for capacity performance** for these flows. Each of these flows is multiplied by 2 for concurrency. [6]

OR

Q6) Explain Flow Models in detail. [6]

Q7) a) What is In-Band and Out-of-Band Management of the network? Explain in detail. [8]

b) Explain the detail about Address Strategies. [8]

OR

Q8) a) Explain how address mechanism plays a vital role during network design. [8]

b) What are the different routing strategies? Explain any two in detail. [8]

Q9) a) What are the different Architectural Considerations of network design? [8]

b) Explain Network Management Mechanisms. [6]

c) What are various parameters of network back bone designs? How these parameters can influence the network design? [4]

OR

Q10) a) List four types of problems that the performance architecture addresses. Give examples of each type of problem. [8]

b) Which of the requirements indicates single-tier performance? Multitier performance. [6]

c) Describe Augmented MENTOR design. [4]

- Q11)** a) What are network blueprints, network diagrams, and component plans?
Why would a network design have sets of each of these? [8]
- b) Explain concept of smart pointer in network design. [4]
- c) List out the different simulation tools and explain any one of that. [4]

OR

Q12) Write a short note on:

- a) i) Prioritization.
- ii) Scheduling.
- iii) Queuing. [8]
- b) Write a note on “compiling and running the simulation”. [8]

