[4959] - 1155

B.E. (Computer Engineering) (Semester - I)
Computer Network Design and Modeling
(2013 Pattern) (Elective - I)

Time : 2½ 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]**

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]**

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