

Total No. of Questions : 12]

P1881

[4859]-1074

SEAT No. :

[Total No. of Pages : 2

B.E. (Computer Engineering)
COMPUTER NETWORK DESIGN AND MODELING
(410444 B) (Elective - I) (2012 Course) (Semester - I)

Time : 3 Hours]

[Max. Marks : 70

Instructions to the candidates:

- 1) All questions are compulsory.
- 2) Neat diagrams must be drawn wherever necessary.
- 3) Use of electronic pocket calculator is allowed.
- 4) Assume suitable data, if necessary.

Q1) State and explain various performance characteristic in details. [6]

OR

Q2) Give an example of a mission critical application for the government or commercial environment. Why this application is considered as mission critical? [6]

Q3) With the help of suitable diagram explain the requirement analysis process. What is the need of developing service metric? [7]

OR

Q4) Write a short notes on:

- a) Developing RMA requirements.
- b) Requirement mapping.

Q5) Explain the concept of flow models with the help of peer-to-peer and client-server models. [7]

OR

Q6) Develop a flow model for real time flows. How to characterize the flows for this model? Explain in detail. [7]

Q7) a) Explain the various routing mechanisms. [10]
b) What is subnetting? Explain variable length subnetting. [6]

OR

Q8) a) State and explain the internal and external relationships in architectural considerations. [10]
b) Explain the concept of supernetting in details. [6]

Q9) a) Discuss the performance mechanisms; also compare DiffServ and IntServ. [10]
b) Write a short note on developing goals for performance. [6]

OR

Q10) a) What are the major components of the evaluation process for vendors, service providers, and equipment? Explain in detail. [10]

b) What is equipment evaluation? Which of the following evaluation criteria most likely apply to equipment evaluations, which ones apply to service-provider evaluations, and which apply to both? [6]

- Available service-level agreements (SLAs)
- Mean time between failure (MTBF)
- Mean time between service outage (MTBSO)

Q11) a) Explain the terminology and components of discrete-event simulation also explain the principle of discrete event simulation. What are the types of simulation runs? [12]

b) What is object aggregation? Explain various events in NS3 or equivalent. [6]

OR

Q12) a) Write a short notes on: [12]

- i) Importance of Modeling and Simulations in Computer networks.
- ii) OMNeT++.
- iii) Modeling network elements.
- b) What is smart pointer? Explain in details. [6]