

B.E.(Computer Engineering)

COMPUTER NETWORK DESIGN AND MODELING

(2012 Pattern) (Semester-I) (410444B) (Elective-I)

Time : 2½ Hours]

Instructions to the candidates:

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

[Max. Marks : 70

Q1) Explain how "Requirement gathering and Analysis while designing a network" can be carried out. [6]

OR

Q2) What is the need of developing service metric? With the help of suitable diagram explain the requirement analysis process. [6]

Q3) a) Enlist and explain the performance characteristics of network. [4]

b) Explain Environment-specific Thresholds and limit in detail. [4]

OR

Q4) Write a short note on:

a) Requirement mapping. [4]

b) Development of service metrics. [4]

Q5) Develop a flow model for real time flows. Explain in detail how to characterize the flows for the developed model. [8]

OR

Q6) Explain in detail flow prioritization and specification. Give example for both. [8]

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Q7) a) What is equipment evaluation? Explain evaluation process with respect to vendors, service providers and equipments. [8]

b) What is importance of Network Layout for analyzing network performance? [4]

OR

Q8) a) Explain various routing mechanisms in details. [8]

b) How network management mechanisms are helpful in network addressing? [4]

Q9) a) What are the different addressing mechanisms strategies explain in details? [8]

b) State and explain role of architectural considerations of network management. [10]

OR

Q10) a) What are the developing goals for network performance and design? [8]

b) What are the roles of design traceability and design metrics for analyzing network performance? [10]

Q11) a) Enlist the tools used for network simulation and elaborate any one of them. [4]

b) Explain the concept of emulation capabilities in network design and analysis. [6]

c) What is the principle of discrete event simulation? Explain in details the components of discrete event simulation? [8]

OR

Q12) a) What is Object aggregation Explain various event in NS-3 or equivalent. [6]

b) Write a short note on: [12]

i) Compiling and running the simulators

ii) Analyzing the results.

iii) Scalability with distributed simulation.

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