Total No. of Questions : 12]

SEAT No. :

P3108

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B.E.(Computer Engineering)

COMPUTER NETWORK DESIGN AND MODELING

(2012 Pattern) (Semester-I) (410444B) (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) ***Figure to the right indicates full marks.***
4) ***Assume suitable data, if necessary.***

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 eloborate 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.