Total No. of Questions : 12]

SEAT No. :

P2040

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[5059]-645

B.E. (Computer Engineering)

COMPUTER NETWORK DESIGN AND MODELING

(2012 Pattern) (Semester - I)

Time : 2½ Hours] *[Max. Marks : 70*

Instructions to the candidates:

1) ***All questions are compulory.***
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 RMA. **[4]**

b) Explain network supportability. **[3]**

OR

Q2) a) What are the application groups? **[4]**

b) Explain Network requirements. **[3]**

Q3) a) Explain service metrics for delay. **[4]**

b) What do you mean developing RMA requirement "Availability"? **[3]**

OR

Q4) a) Given an MTBCF requirement of 8000 hours and an MTTR requirement of 4 hours, calculate an availability requirement. **[4]**

b) Environment Specific Thresholds and Limit. **[3]**

Q5) What are the different flow models? Explain any two : **[6]**

OR

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Q6) Explain the concept of Flow map. **[6]**

Q7) What are addressing mechanisms in computer network? Explain classful addressing, subnetting, variable-length subnetting, and supernetting. **[16]**

OR

Q8) What do you mean by routing strategies? Explain **[16]**

a) Evaluating routing protocols.

b) Choosing and Applying Routing Protocols.

Q9) a) Explain the following performance mechanisms. **[10]**

i) Quality of Service

ii) Prioritization, Traffic Management, Scheduling and Queuing

b) What are the network design products? Enlist all and explain any two. **[8]**

OR

Q10) a) Explain following network layouts. **[10]**

i) Logical Diagrams

ii) Network Blueprints

b) What are the major components of the evaluation process for vendors, service providers, and equipment? **[8]**

Q11) Write notes on : **[16]**

a) Smart Pointers.

b) Modeling network elements.

c) Network Simulators.

d) Object aggregation.\

OR

Q12) a) Explain network simulator -ns3. **[8]**

b) OMNet++ **[8]**