

Total No. of Questions : 12]

P5258

SEAT No. :

[Total No. of Pages : 2

[5671]-285

M.E. (Computer Engineering)
FAULT TOLERANT SYSTEMS
(2017 Pattern) (610101)

Time : 3 Hours]

Instructions to the candidates:

- 1) Attempt Q.No. 1 or Q.No. 2, Q.No. 3 or Q.No. 4, Q.No. 5 or Q.No. 6, Q.No. 7 or Q.No. 8, Q.No. 9 or Q.No. 10, Q. No. 11 or Q.No. 12
- 2) Neat diagrams must be drawn wherever necessary.
- 3) Figures to the right indicate full marks.
- 4) Assume suitable data, if necessary.

[Max. Marks :50

Q1) What is difference between empirical and analytical modeling technique? Explain with suitable example. **[8]**

OR

Q2) List and describe following redundancy techniques. **[8]**

- a) Active hardware redundancy
- b) Passive hardware redundancy

Q3) Explain what is path sensitization? Describe with a diagram and example. **[8]**

OR

Q4) Explain following stuck-at faults with example. **[8]**

- a) Stuck at 1
- b) Stuck at 0

Q5) Define Mesh and Hypercube network. Compare Mesh and Hypercube network with respect to : **[9]**

- a) Total number of links
- b) Number of nodes

OR

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Q6) Explain following : **[9]**

- a) Routing in faulty mesh network.
- b) Node labeling technique.

Q7) What is BSN network? Describe sequential and parallel connection on dimensions in BSN. **[8]**

OR

Q8) Explain with suitable example, how fault coverage percentage is calculated. **[8]**

Q9) Define and explain in detail

- a) Network terminal reliability
- b) All terminal reliability

OR

Q10) Explain how fault tolerance can be provided in loop network with the help of bypass switch technology and braided ring topology. **[8]**

Q11) How agreement in faulty system can be achieved? Explain with an example. **[9]**

OR

Q12) With respect to reliable client server communication, describe followings **[9]**

- a) Point to point communication
- b) RPC semantics in the presence of a failure

