Total No. of Questions : 12]

SEAT No. :

P3960

[Total No. of Pages : 2

[5462]-685

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

Time : 3 Hours] *[Max. Marks : 50*

Instructions to the candidates:

1) ***Attempt Q.No.1 or Q.No.2, Q.No.3 or Q.No.4, Q.No.5 ro 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.***

Q1) Define Fault, Error and Failure. List different phases for system development and explain with an example how fault may occur and propagate in these phases. **[8]**

OR

Q2) Enlist and explain different Analytical Techniques available for computing the reliability of the system? **[8]**

Q3) List different Fault Simulation Algorithms. Explain any two fault simulation algorithms in detail. **[8]**

OR

Q4) Explain combinational and sequential fault diagnosis techniques. **[8]**

Q5) Define an n-dimensional Hypercube. Explain how Hamming difference between two addresses is calculated. Draw 4-cube architecture. **[9]**

OR

Q6) Explain Depth-first Search Approach for Fault-Tolerant Routing Algorithms in Hypercube. **[9]**

Q7) Describe general architecture of the Hyper Torus Network with diagram. Describe how fault coverage percentage is calculated. **[8]**

OR

P.T.O.

Q8) What is Block Shift Network? Explain the following connection methods for the connections on dimensions in Block Shift Network. **[8]**

a) Concurrent connection.

b) Sequential connection.

c) Parallel connection.

Q9) Write and explain reliability expression of **[8]**

a) Token ring network.

b) By-pass switch network.

OR

Q10)Explain Daisy chain and Double loop architecture with diagram. **[8]**

Q11)List types of failures. Describe each of type of failure with an example. **[9]**

OR

Q12)Explain Byzantine Agreement Problem with suitable example. **[9]**