

SSN COLLEGE OF ENGINEERING, KALAVAKKAM – 603 110
DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

B.E. Computer Science and Engineering
CS6601 DISTRIBUTED SYSTEMS

Date: 05.02.2018, 8.00-9.30 AM
Academic Year: 2017-2018 EVEN
Semester: 6.

UNIT TEST – 2

Max. Marks: 50
Batch: 2015-2019

Faculty: Mr. H.Shahul Hamead & Ms. Y.V.Lokeswari

PART -A

(5X2 =10 Marks)

1. For a total of 10 processors in the system, how many number of faulty processors are allowed to arrive at a consensus. **(K3, CO4)**
2. Differentiate between objects and components. **(K2, CO2)**
3. What is Safety, Liveness and Fairness property in Mutual Exclusion **(K2, CO4)**
4. What is a P2P system and how it is different from Client-Server system. **(K2, CO2)**
5. What is a mobile code and give one example. **(K2, CO2)**

PART – B

(24 Marks)

6. Elaborate about the architectural elements in distributed systems. **(16) (K2, CO2)**

OR

7. Discuss about the failure model and security model in distributed system. **(8+8)**
(K2, CO2)
8. (i) Discuss in brief about generations of distributed systems in Physical model. **(4)**
(K2, CO2)

(ii) Explain about the performance evaluation parameters for distributed mutual exclusion. **(4) (K2, CO4)**

OR

9. Explain about Architectural patterns in distributed system. **(8) (K2, CO2)**

PART – C

(16 Marks)

10. Explain Lamport's Algorithm for Non-Token based Mutual Exclusion and discuss about optimization method for Lamport's Distributed Mutex Algorithm. **(16) (K2, CO4)**

(P.T.O)

OR

11. Consider Byzantine Consensus for the following scenario

(4+4+4+4)

(K3, CO4)

- a. How many no of faulty processors can be present for a distributed system with 'N' number of nodes to achieve agreement? Simulate the case.
- b. Simulate the case where source is a faulty processor.
- c. Simulate the case where byzantine consensus cannot be arrived for 3 processors where one being faulty.
- d. What would happen if it is applied on asynchronous systems.

Prepared By

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HOD / CSE

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