Distributed Computing

Paper code: IT 702   Branch: IT

Time: 3 hours   Full Marks: 70

Answer *ANY FIVE* questions. Each question carries equal marks. (14×5)

1. Define Byzantine agreement problem. Show with example that no agreement can be reached for the 3-general problem whereas agreement can be reached for 4-general problem with at most one traitor.

2. What do you mean by AND model and OR model for deadlock detection in distributed system? Describe.

3. Describe the Reymond's algorithm for distributed mutual exclusion problem. Find its message complexity.

4. Describe one of the quorum based mutual exclusion algorithms. Show the execution of the algorithm with a suitable example.

5. Describe an algorithm for electing a leader in a distributed system.

6. Write notes on consistency models.

7. How can you balance load in a distributed system. Describe method(s).

8. Write an algorithm to find the global state of a distributed system.