# Unit 3

1. Design a termination detection algorithm that is based on the concept of weight throwing and is tolerant to message losses. Assume that processes do not crash.

245

1. State the rules defined for Termination detection using distributed snapshots.

244

1. Write the Bagrodia’s Algorithm for Binary Rendezvous. Write the observations about synchronous communication under binary rendezvous.

204

1. Prove the correctness of the termination detection by weight throwing algorithm by defining the invariants. Describe the message optimal termination detection algorithm.

246,253

1. Describe the stack \_clean up procedure in message-optimal termination detection algorithm.

256

# Unit 4

1. Show that in the Ricart–Agrawala algorithm the critical section is accessed in increasing order of timestamp. Does the same hold in Maekawa’s algorithm?

312

1. Discuss the data structures used in Chandy–Misra–Haas algorithm for the AND model.

362

1. Write and explain in detail Kshemkalyani–Singhal algorithm for the P-out-of-Q model.

365

1. Describe the Multiple uses of a REQUEST message and REPLY message in Lodha and Kshemkalyani’s fair mutual exclusion algorithm.

322

1. Describe the issues in Deadlock Detection. State the conditions to be satisfied by a deadlock detection algorithm during execution.

354

1. Illustrate the operation of lamport’s algorithm, requesting for the critical section.

309

1. Describe the working of distributed mutual exclusion algorithm developed by Lamport.

309

# Unit 5

1. Compare Stable predicates and unstable predicates. Identify the challenges in detecting unstable predicates and the two-phase detection of a stable property.

379

1. Illustrate with an example, how to detect a relational predicate by examining the state lattice

384

1. Illustrate  with an example

389 AND 390