



- Notes :
1. All questions carry marks as indicated.
 2. Solve Question 1 OR Questions No. 2.
 3. Solve Question 3 OR Questions No. 4.
 4. Solve Question 5 OR Questions No. 6.
 5. Solve Question 7 OR Questions No. 8.
 6. Solve Question 9 OR Questions No. 10.
 7. Solve Question 11 OR Questions No. 12.
 8. Assume suitable data whenever necessary.
 9. Illustrate your answers whenever necessary with the help of neat sketches.

1. a) Explain the issues in the design of distributed operating system. 7
b) What are the types of Advanced operating systems. 6

OR

2. a) Write Chandy - Lamport's global state recording algorithm. 8
b) What is cut? Differentiate between consistent and inconsistent cut? 5
3. a) Describe different mechanism for mutual exclusion handling. 7
b) Explain Lamport's algorithm for mutual exclusion. 7

OR

4. a) Explain Raymonds tree based algorithm for providing mutual Exclusion. 7
b) Define the terms with diagram.
i) Response time. 2
ii) Synchronization delay. 3
iii) System throughput. 2
5. a) Explain basic issues in deadlock detection and resolution. 7
b) Differentiate between. 6
i) Synchronous and Asynchronous computations.
ii) Authenticated and non authenticated messages.

OR

6. a) Show that byzantine agreement cannot always be reached among four processors if two processors are faulty. 7
b) Explain the Ho - Ramamoorthy algorithm including phase – I and phase – II Algorithms. 6

7. a) Draw and Explain Architecture of Distributed Shared Memory (DSM) System. 6
b) State and Explain the advantages of Distributed Shared Memory System. 8

OR

8. a) Illustrate the issues in the design and implementation of distributed file system. 7
b) Draw and explain architecture of distributed file system. 7
9. a) What is task migration? Write down the steps involved in task migration. 5
b) Differentiate between preemptive and non-preemptive task transfer. 3
c) Explain the components of any load distributing algorithm. 5

OR

10. a) Explain Sender-initiated algorithm. 6
b) State and explain the various requirements to be satisfied by a load distributing scheme. 4
c) Differentiate between load balancing and load sharing. 3
11. a) Explain 2-Phase commit protocol. 7
b) Explain different types of faults in distributed system? 6

OR

12. a) Write note on 6
i) Orphan messages.
ii) Domino Effect.
- b) Explain the operation based approach for backward error recovery. 7
