B.E. (Information Technology) Eighth Semester (C.B.S.)

Distributed Systems

P. Pages : 2 **NIR/KW/18/3700**

Time : Three Hours Max. Marks : 80

* 1 3 5 9 *

Notes :
1. Solve Question 1 OR Questions No. 2.
2. Solve Question 3 OR Questions No. 4.
3. Solve Question 5 OR Questions No. 6.
4. Solve Question 7 OR Questions No. 8.
5. Solve Question 9 OR Questions No. 10.
6. Solve Question 11 OR Questions No. 12.
7. Due credit will be given to neatness and adequate dimensions.
8. Illustrate your answers whenever necessary with the help of neat sketches.

1. a) Discuss the issues in design of a distributed operating system. **6**

b) Enlist & explain different computing models of distributed system. **7**

OR

2. a) Explain client server model with proper block diagram. **6**

b) Discuss about Hardware & software classification of distributed system. **7**

3. a) Explain Remote Procedure call. **6**

b) Write a short note on message passing systems. Also write down the advantages of message passing system. **7**

OR

4. a) Explain message format & different message buffering strategies in Message passing system. **7**

b) Discuss about Extended RPC models. **6**

5. a) What is the need of clock synchronization in distributed systems. Explain Lamport logical clock with proper example. **9**

b) Write a short note on Transactions in distributed system. **5**

OR

6. a) Explain Bully & Ring Election Algorithms with proper example. **7**

b) How mutual exclusion is achieved in centralized, distributed and Token Ring system. **7**

7. a) Explain Path-Pushing & Edge chasing Algorithms with proper Examples. **10**

b) Explain deadlock Resolution techniques in distributed system. **4**

OR

8. a) What are the different techniques to prevent deadlocks in distributed system. Explain Each one, with suitable example. **9**

b) How can we avoid deadlock in distributed system. Explain with suitable example. **5**

9. a) What is distributed shared memory? What are the advantages of distributed shared memory. **7**

b) Explain with proper Block-Diagram general architecture of distributed shared memory. **6**

OR

10. a) Explain different consistency models in DSM. **7**

b) Discuss the design & implementation issues of distributed shared memory. **6**

11. a) What is Distributed file system? Write down the desirable features of a good distributed file system. **6**

b) Explain file caching methods in distributed system. **7**

OR

12. a) What are the types of file models used in Distributed file system. Explain File-Sharing semantics. **7**

b) Write a short notes on :- **6**
1) File Replication.
2) Fault Tolerance.
3) CORBA.

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