

Roll No.

24471

**B. Tech. 7th Semester (IT)
Examination – May, 2019**

DISTRIBUTED OPERATING SYSTEM

Paper : CSE-423-F

Time : Three Hours] [Maximum Marks : 100

Before answering the questions, candidates should ensure that they have been supplied the correct and complete question paper. No complaint in this regard, will be entertained after examination.

Note : Question No. 1 is compulsory. Attempt five questions in total selecting one question from each Unit.

1. Write short notes on : 4 × 5 = 20

- (a) Middleware model.
- (b) Atomic Transactions.
- (c) Real time distributed system.
- (d) Shared variables in DSM.

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UNIT – I

- 2. (a) What is distributed system ? What are the objectives and goals of these systems ? How are these systems helpful ? Illustrate. 10
- (b) List out Issues in designing a distributed operating system and explain transparency in detail. 10
- 3. (a) What is the difference between remote procedure call and local procedure call ? Explain lightweight RPC in detail. 10
- (b) What are layered protocols in distributed systems ? Outline the purpose of these protocols. 10

UNIT – II

- 4. (a) What are the different issues in deadlock detection and resolutions ? How Ho Ramamoorthy algorithm is used in deadlock detection and resolution ? 12

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- (b) Discuss Bully's algorithm for choosing a coordinator process. 8
5. (a) Discuss any *two* algorithms for ensuring the mutual exclusion in distributed systems. 10
- (b) Discuss the importance of Synchronization in DOS. Which algorithms are useful for synchronize of clock in DOS? 10

UNIT – III

6. In the processor allocation algorithms, we pointed out that one choice is between centralized and distributed and another is between optimal and suboptimal. Devise two optimal location algorithms, one centralized and one decentralized. 20
7. (a) List and explain important goals of distributed file system. Explain file access models in distributed file system. 10
- (b) Discuss various trends in distributed file system. 10

UNIT – IV

8. (a) Explain with examples various consistency models used in distributed shared memory system. Also explain granularity aspect in DSM. 10
- (b) Explain the process management in MACH. 10
9. (a) Discuss page based distributed shared memory model briefly. 10
- (b) Explain the communication process in MACH. 10