

CSE-423 F DISTRIBUTED OPERATING SYSTEM

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Class Work: 50
Exam: 100
Total: 150
Duration of Exam: 3 Hrs.

NOTE: For setting up the question paper, question no 1 will be set up from all the four sections which will be compulsory and of short answer type. Two questions will be set from each of the four sections. The students have to attempt first common question, which is compulsory, and one question from each of the four sections. Thus students will have to attempt 5 questions out of 9 questions.

Section A

Introduction on: Introduction on to Distributed System, Goals of Distributed system, Hardware and Software concepts , Design issues. Communication in distributed system: Layered protocols, ATM networks, Client – Server model, Remote Procedure Calls and Group Communication. Middleware and Distributed Operating Systems.

Section B

Synchronization in Distributed System: Clock synchronization, Mutual Exclusion, Election algorithm, the Bully algorithm, a Ring algorithm, Atomic Transactions, Deadlock in Distributed Systems, Distributed Deadlock Prevention, Distributed Deadlock Detection .

Section C

Processes and Processors in distributed systems: Threads, System models, Processors Allocation, Scheduling in Distributed System, Real Time Distributed Systems.

Distributed file systems: Distributed file system Design, Distributed file system Implementation, Trends in Distributed file systems.

Section D

Distributed Shared Memory: What is shared memory, Consistency models, Page based distributed shared memory, shared variables distributed shared memory.

Case study MACH: Introduction to MACH, process management in MACH, communication in MACH, UNIX emulation in MACH.

Text Book:

- 1 Distributed Operating System – Andrew S. Tanenbaum, PHI.
- 2 Operating System Concepts , P.S.Gill, Firewall Media