

Set No.

1

Code No: RR 411505

IV B.Tech. I Semester Regular Examinations, November-2005

DISTRIBUTED OPERATING SYSTEMS

(Computer Science and Systems Engineering)

Time: 3 hours

Max Marks: 80

**Answer Any FIVE questions.
All questions carry equal marks**

- 1.a) Distinguish a Distributed Operating System from a Network Operating System. [6]
- b) Give the Flynn's Classification of parallel and distributed systems. [6]
2. Explain the following design issues of a DSM. [2x6]
 - a) Granularity
 - b) Page Replacement
3. Mentioning merits and demerits compare the token based and non-token based distributed mutual exclusion algorithms. [12]
- 4.a) Write about atomic transactions. [6]
- b) Write about their implementation methods. [6]
5. With a neat sketch, write about RPC mechanism. [4+8]
6. Write about a page-based DSM system in detail. [12]
7. State the various design issues of a Distributed File System (DFS). Write on any three of them. [3+3X3]
8. Write on ANY TWO of the following: [2x6]
 - a) Advantages and disadvantages of a distributed system.
 - b) Distributed deadlocks handling.
 - c) Task migration vs. Task Placement.

Set No.

2

Code No: RR 411505

IV B.Tech. I Semester Regular Examinations, November-2005

DISTRIBUTED OPERATING SYSTEMS

(Computer Science and Systems Engineering)

Time: 3 hours

Max Marks: 80

Answer Any FIVE questions.

All questions carry equal marks

1. Explain the token based and non-token based distributed mutual exclusion algorithms with illustrations and performance analysis. [12]
- 2.a) Discuss the following design issues of a Distributed Operating System.
 - i) Structuring
 - ii) Scalability [6]
- b) Give the Flynn's Classification of parallel and distributed systems. [6]
3. Explain the following design issues of a distributed file system (DFS).
 - a) Cache consistency
 - b) Availability [2x6]
- 4.a) Write about multithreading concept. [6]
- b) Write about their implementation methods. [6]
5. State the disadvantages of message passing (Client Server) model. Explain how RPC mechanism eliminates them. [4+8]
6. Write about a Shared variable-based Distributed Shared Memory (DSM) system in detail. [12]
- 7.a) State and explain the design issues of a distributed scheduler. [6]
- b) Compare and contrast receiver-initiated and sender-initiated distributed scheduling algorithms. [12]
8. Write on ANY TWO of the following: [2x6]
 - a) Network OS vs. Distributed OS.
 - b) Distributed deadlocks handling
 - c) Load Sharing vs. Load Balancing.

Set No.

3

Code No: RR 411505

IV B.Tech. I Semester Regular Examinations, November-2005

DISTRIBUTED OPERATING SYSTEMS

(Computer Science and Systems Engineering)

Time: 3 hours

Max Marks: 80

**Answer Any FIVE questions.
All questions carry equal marks**

1. State and explain various design issues of a distributed operating system. [12]
- 2.a) Explain the concept of DSM, giving a neat sketch of its architecture. [8]
b) Explain its advantages in detail. [4]
3. Giving performance metrics and requirements, distinguish the token based and non-token based distributed mutual exclusion algorithms. [12]
- 4.a) Explain the properties of atomic transactions. [6]
b) Write about their implementation methods. [6]
5. State the various design issues of a Distributed File System (DFS). Write on any three of them. [12]
6. With a neat sketch, write about RPC mechanism. [4+8]
7. Write about a object-based DSM system in detail [12]
8. Write on ANY TWO of the following: [2x6]
 - a) Advantages and disadvantages of distributed systems.
 - b) Flynn's Classification of parallel and distributed systems.
 - c) Concept of Mounting.

Set No.

4

Code No: RR 411505

IV B.Tech. I Semester Regular Examinations, November-2005

DISTRIBUTED OPERATING SYSTEMS

(Computer Science and Systems Engineering)

Time: 3 hours

Max Marks: 80

**Answer Any FIVE questions.
All questions carry equal marks**

- 1.a) Discuss the following design issues of Distributed Operating System.
 - i) Performance Evaluation
 - ii) Reliability [6]
- b) Give the Flynn's Classification of parallel and distributed systems. [6]
2. Compare the token based and non-token based distributed mutual exclusion algorithms. [12]
3. State and explain various design issues of a DFS component. [12]
- 4.a) Distinguish a thread from a process. [6]
- b) Write about the implementation of multithreading. [6]
5. State the disadvantages of message passing (Client Server) model.
Explain how RPC mechanism eliminates them. [4+8]
6. Write about a page-based DSM system in detail [12]
- 7.a) State and explain the design issues of Distributed Scheduling. [6]
- b) Explain any one distributed scheduling algorithm. [6]
8. Write on ANY TWO of the following: [2x6]
 - a) Network OS vs. Distributed OS.
 - b) Concept of Mounting.
 - c) Task migration vs. Task Placement.