

# Lecture Plan

Subject: **Distributed Operating Systems (CSE18106) [L-T-P = 3-0-0]**  
Class: **VIII Semester B.Tech. (Computer Science & Engineering)**  
**VIII Semester Dual Degree (Computer Science & Engineering)**

Sl. No.	Name of the Topics	Number of Lectures
1.	<b>Details of Traditional Operating System</b>	Prerequisite
2.	<b>Computer Networks</b>	Prerequisite
3.	<b>Introduction</b> Distributed Computing System Models, Operating Systems, Goals of Distributed System, Hardware Concept.	4
4.	<b>Message Passing</b> Desirable features, Issues in IPC, Synchronization, Buffering, Encoding and Decoding, Process Addressing, Failure Handling, Group Communication.	4
5.	<b>Remote Procedure Calls</b> RPC Model, Transparency of RPC, Implementation of RPC Mechanism, RPC Messages, Marshalling, Server Management (Stateful and Stateless Server), Parameter-Passing Semantics (Call-by-Value, Call-by-Reference), Call-Semantics, Communication Protocols for RPCs, Client-Server Binding, Special Types of RPCs.	5
6.	<b>Distributed Shared Memory</b> General Architecture of DSM Systems, Design and Implementation Issues of DSM, Structure of Shared-Memory Space, Consistency Models, Replacement Strategy, Thrashing, Advantages of DSM	5
7.	<b>Synchronization</b> Clock Synchronization, Event Ordering, Mutual Exclusion, Deadlock, Election Algorithms	5
8.	<b>Resource Management</b> Task Assignment Approach, Load-Balancing Approach, Load-Sharing Approach	5
9.	<b>Process Management</b> Process Migration, Threads	5
10.	<b>Distributed File Systems</b> File Models, File-Accessing Models, File-Sharing Semantics, File-Caching Schemes, File Replication	4
11.	<b>Security</b> Potential Attacks to Computer Systems, Cryptography, Authentication, Access Control, Digital Signatures.	2
<b>TOTAL</b>		<b>39</b>