

GUJARAT TECHNOLOGICAL UNIVERSITY

M.E Semester: 1

Computer Science & Engineering

Subject Name Distributed Operating Systems

Sr.No	Course content
1.	<ul style="list-style-type: none">• Introduction to distributed Systems: Definition and goals, Hardware and Software concepts, Design issues
2.	<ul style="list-style-type: none">• Communication in Distributed System: Computer Network and Layered protocols, Message passing and related issues, synchronization, Client Server model & its implementation, remote procedure call and implementation issues, Case Studies: SUN RPC, DEC RPC
3.	<ul style="list-style-type: none">• Synchronization in distributed systems: Clock synchronization and related algorithms, mutual exclusion, Deadlock in distributed systems
4.	<ul style="list-style-type: none">• Processes and processors in distributed systems: Threads, system model, processor allocation, scheduling in distributed systems: Load balancing and sharing approach, fault tolerance, Real time distributed systems, Process migration and related issues
5.	<ul style="list-style-type: none">• Distributed File Systems: Introduction, features & goal of distributed file system, file models, file accessing models, file sharing semantics, file caching scheme, file replication, fault tolerance, trends in distributed file system, case study.
6.	<ul style="list-style-type: none">• Distributed Shared Memory: Introduction, general architecture of DSM systems, design and implementation issues of DSM, granularity, structure of shared memory space, consistency models, replacement strategy, thrashing
7.	<ul style="list-style-type: none">• Case Study: Amoeba, Mach, Chorus, DCE

Reference Books:

1. Distributed Operating Systems Concepts and Design, Pradeep K. Sinha, PHI
2. Distributed Operating Systems by Andrew S Tannebaum, PHI