

GUJARAT TECHNOLOGICAL UNIVERSITY

M.E Semester: 2 Computer Engineering

Subject Name Distributed Operating Systems

Sr.No	Course content
1.	Introduction to distributed Systems: Definition and goals, Hardware and Software concepts, Design issues
2.	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.	Synchronization in distributed systems: Clock synchronization and related algorithms, mutual exclusion, Deadlock in distributed systems.
4.	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.	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.	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.	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