Objective of the Course:
To understand the basic research needed to develop new geographic information technologies that are distributed, ubiquitous, and mobile, allowing geographic information to be accessed, analyzed, and used in decision-making anywhere, at any time.

UNIT - I
Distributed systems versus Parallel systems, Characterization of Distributed Systems, System Models, Models based on states, Networking and Internetworking, Inter Process communication

UNIT - II
Logical clocks, Vector clocks, verifying clock algorithms, Direct dependency clocks, Mutual Exclusion, Lamport’s algorithm, Ricart Agrawala algorithm. Mutual exclusion using timestamps, tokens ad Quorums.

UNIT - III

UNIT - IV
Name Services and Domain Name System, Directory and Discovery Systems, Drinking philosophers problem, Global state, Global snapshot algorithm, Termination Detection - Dijkstra and Scholten’s algorithm

UNIT - V
Transactions and Concurrency Control, Distributed Transactions, Distributed Deadlocks, Transaction Recovery, Fault-tolerant Services, Distributed Shared Memory, Distributed consensus.

TEXT BOOKS:

REFERENCE BOOKS: