**RAJIV GANDHI PROUDYOGIKI VISHWAVIDYALAYA, BHOPAL**

**Credit Based Grading System**

**Computer Science and Engineering VII-Semester**

**CS-7001 Distributed System**

**Unit-I**

**Introduction to distributed systems**

Architecture for Distributed System, Goals of Distributed system, Hardware and Software concepts, Distributed Computing Model, Advantages & Disadvantage distributed system, Issues in designing Distributed System,

**Unit-II**

**Distributed Share Memory And Distributed File System**

Basic Concept of Distributed Share Memory (DSM), DSM Architecture & its Types, Design & Implementations issues In DSM System, Structure of Share Memory Space, Consistency Model, and Thrashing. Desirable features of good Distributed File System, File Model, File Service Architecture, File Accessing Model, File Sharing Semantics, File Catching Scheme, File Application & Fault tolerance. Naming: - Features, System Oriented Names, Object Locating Mechanism, Human Oriented Name.

**Unit-III**

**Inter Process Communication And Synchronization**

API for Internet Protocol, Data Representation & Marshaling, Group Communication, Client Server Communication, RPC- Implementing RPC Mechanism, Stub Generation, RPC Messages. Synchronization: - Clock Synchronization, Mutual Exclusion, Election Algorithms:- Bully & Ring Algorithms**.**

**Unit-IV**

**Distributed Scheduling And Deadlock**

Distributed Scheduling-Issues in Load Distributing, Components for Load Distributing Algorithms, Different Types of Load Distributing Algorithms, Task Migration and its issues. Deadlock-Issues in deadlock detection & Resolutions, Deadlock Handling Strategy, Distributed Deadlock Algorithms,

**Unit-V**

**Distributed Multimedia & Database system**

Distributed Data Base Management System(DDBMS), Types of Distributed Database, Distributed Multimedia:- Characteristics of multimedia Data, Quality of Service Managements. Case Study of Distributed System:- Amoeba, Mach, Chorus

**References:**


1. Sinha, Distributed Operating System Concept & Design, PHI
2. Coulouris & Dollimore, Distributed System Concepts and Design, Pearson Pub
3. Singhal & Shivratari, Advance Concept in Operating System, McGraw Hill
4. Attiya & Welch, Distributed Computing, Wiley Pub.