

**CS-403 Distributed Database System.
M.C.A. (Commerce) Sem-IV**

Chap. No.	Name of the Topic	No. of Lectures	Reference Book
1	Introduction to DDBMS 1.1 Distributed Data Processing 1.2 Introduction to DDBS 1.3 Introduction to DDBMS 1.4 Promises of DDBSs 1.5 Complicating factors and problem areas in DDBMS	3	1,3
2	Distributed DBMS Architecture 2.1 DBMS Standardization 2.2 Architectural models of DDBMS 2.3 DDBMS architectures and global directory issues.	5	1,2
3	Distributed Database Design 3.1 Alternative design strategies 3.2 Distributed design issues 3.3 Fragmentation and allocation	8	1
4	Overview of Query Processing 4.1 Query Processing problems 4.2 Objectives of query processing 4.3 Complexity of relational algebraic operations 4.4 Characterization of query processors 4.5 Layers of query processing	4	1
5	Query Processing 5.1 Query decomposition 5.2 Localization of distributed data 5.3 Query optimization 5.4 Centralized query optimization 5.5 Join ordering in fragment queries 5.6 Distributed query optimization	14	1
6	Transaction Management 6.1 Definition of transaction 6.2 Properties of transactions 6.3 Types of transactions 6.4 Architecture revisited	2	1,2,3
7	Distributed Concurrency Control 7.1 Serilizability Theory 7.2 Taxonomy of concurrency control mechanisms 7.3 Locking based concurrency control algorithms 7.4 Timestamp based concurrency based algorithms 7.5 Optimistic concurrency control algorithms 7.6 Deadlock management	10	1

8	Distributed DBMS Reliability 8.1 Reliability concepts and measures 8.2 Failures & fault tolerance in distributed systems 8.3 Failures in DDBMS 8.4 Local reliability protocols 8.5 Distributed reliability protocols 8.6 Dealing with site failures 8.7 Network partitioning	8	1
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Reference Book :

1) Principles of Distributed Database Systems; 2nd Edition

By M. Tamer Ozsu and Patrick Valduriez
 Published by Person Education Asia

2) Distributed database principles

By Stefano Ceri and Giuseppe Pelagatti
 Published by McGraw-Hill International Editions

3) Database system concepts, 5th Edition

Abraham Silberschatz Henry Korth, S Sudarshan , (McGraw Hill International)