

**UNIT-I RELATIONAL MODEL ISSUES 9**

ER Model - Normalization – Query Processing – Query Optimization – Transaction Processing - Concurrency Control – Recovery - Database Tuning.

**UNIT-II DISTRIBUTED DATABASES 9**

Parallel Databases – Inter and Intra Query Parallelism – Distributed Database Features – Distributed Database Architecture – Fragmentation – Distributed Query Processing – Distributed Transactions Processing – Concurrency Control – Recovery – Commit Protocols.

**UNIT-III OBJECT ORIENTED DATABASES 9**

Introduction to Object Oriented Data Bases - Approaches - Modeling and Design - Persistence – Query Languages - Transaction - Concurrency – Multi Version Locks – Recovery – POSTGRES – JASMINE –GEMSTONE - ODMG Model.

**UNIT-IV EMERGING SYSTEMS 9**

Enhanced Data Models - Client/Server Model - Data Warehousing and Data Mining - Web Databases – Mobile Databases- XML and Web Databases.

**UNIT-V CURRENT ISSUES 9**

Rules - Knowledge Bases - Active and Deductive Databases - Multimedia Databases– Multimedia Data Structures – Multimedia Query languages - Spatial Databases.

**TOTAL : 45 PERIODS**

**TEXT BOOKS:**

Thomas Connolly and Carlolyn Begg, “Database Systems, A Practical Approach to Design, Implementation and Management”, Third Edition, Pearson Education 2003.

**REFERENCES:**

1. R. Elmasri, S.B. Navathe, “Fundamentals of Database Systems”, Fifth Edition, Pearson Education, 2006.
2. Abraham Silberschatz, Henry F. Korth, S.Sudharshan, “Database System Concepts”, Fifth Edition, Tata McGraw Hill, 2006.
3. C.J.Date, A.Kannan, S.Swamynathan, “An Introduction to Database Systems”, Eighth Edition, Pearson Education, 2006.