UNIT I  QUERY AND TRANSACTION PROCESSING  9
Data Storage and Querying : Storage and File Structure - Indexing and Hashing –
Physical Database Design and Tuning - Query Processing Algorithms – Query
Optimization Techniques – Transaction Management: Transaction Processing Concepts

UNIT II  PARALLEL AND DISTRIBUTED DATABASES  9
Database System Architectures: Centralized and Client-Server Architectures – Server
System Architectures – Parallel Systems- Distributed Systems – Parallel Databases: I/O
Parallelism – Inter and Intra Query Parallelism – Inter and Intra operation Parallelism –
Distributed Database Concepts - Distributed Data Storage – Distributed Transactions –
Commit Protocols – Concurrency Control – Distributed Query Processing – Three Tier
Client Server Architecture- Case Studies.

UNIT III  OBJECT AND OBJECT RELATIONAL DATABASES  9
Concepts for Object Databases: Object Identity – Object structure – Type Constructors –
Encapsulation of Operations – Methods – Persistence – Type and Class Hierarchies –
Inheritance – Complex Objects – Object Database Standards, Languages and Design:
ODMG Model – ODL – OQL – Object Relational and Extended – Relational Systems :
Object Relational features in SQL / Oracle – Case Studies.

UNIT IV  ENHANCED DATA MODELS  9
Active Database Concepts and Triggers – Temporal Databases – Spatial Databases –
Multimedia Databases – Deductive Databases – XML Databases: XML Data Model –
DTD - XML Schema - XML Querying - Geographic Information Systems - Genome Data
Management.

UNIT V  EMERGING TECHNOLOGIES  9
Mobile Databases: Location and Handoff Management - Effect of Mobility on Data
Management - Location Dependent Data Distribution - Mobile Transaction Models -
Concurrency Control - Transaction Commit Protocols – Web Databases – Information
Retrieval - Data Warehousing - Data Mining.

TOTAL = 45

REFERENCES
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