

## **Paper-II: Database Management Systems**

### **UNIT-I**

**Introduction :** Purpose of the data base system, data abstraction, data model, data independence, data definition language, data manipulation language, data base administrator, data base users, overall structure.

**ER Model :** entities, mapping constrains, keys, E-R diagram, reduction E-R diagrams to tables, generatio, aggregation, design of an E-R database scheme.

### **UNIT-II**

**Relational Model :** The catalog, base tables and views. Relational Data Objects - Domains and Relations: Domains, relations, kinds of relations, relations and predicates, relational databases.

**Relational Data Integrity -** Candidate keys and related matters: Candidate keys. Primary and alternate keys. Foreign keys, foreign key rules, nulls. Candidate keys and nulls, foreign key and nulls.

### **UNIT-III**

**The SQL Language:** Data definition, retrieval and update operations. Table expressions, conditional expressions, embedded SQL.

**Views:** Introduction, what are views for, data definition, data manipulation, SQL support.

### **UNIT-IV**

**Network model :** basic concepts, data structure diagrams, DBTG CODASYL model, DBTG data retrival facility, DBTG update facility, DBTG set processing facility, mapping networks to file, networks system.

**Hierarchical model :** basic concepts, tree structure diagrams, data retrieval facility, update facility, virtual records, maping hierarchical to files, hierarchical system.

### **UNIT-IV**

**File and system structure :** overall system structure, file organisation, logical and physical file organization, sequential and random, hierarchical, inverted, multi list, indexing and hashing, B-tree index files.

### **Suggested Book**

1. Date C.J., Database Systems, Addison Wesley.
2. Korth, Database Systems Concepts, McGraw Hill.