

Subject Name: DATA BASE MANAGEMENT SYSTEM
SECTION-A

- Explain 3 level architecture of database System & briefly explains three levels.
- Explain difference between procedural & non-procedural DML with example
- what are the various duties & responsibilities of DBA?
- Draw an ER Diagram for Library Management System.
- Describe three-tier client server Architecture with the help of Diagram
- Draw an ER diagram for Hospital Management System
- Explain Reduction of E-R diagram into tables with the help of example
- What are mapping constraints? What is the difference between Primary Key, Foreign Key and Super Key?

SECTION-B

- What are various Hashing techniques? Explain in detail
- Differentiate between sequential & index sequential file
- What is the difference between relational algebra & relational Calculus?
Differentiate between network & hierarchical Model with the help of Diagram
- What are the various operations of relational Algebra? Explain Purpose of each.
- Explain B Tree File organization. How it can be used? Describe structure of B tree
- What are the main categories of Data models?

SECTION-C

- What is normalization. Explain various forms of Normalization by giving examples. Also, Differentiate between 3NF & BCNF.
- what is relational Calculus? What are its two forms? Differentiate between them.
- Define the term Functional dependency. Explain trivial, Full and Partial Functional dependency
- Discuss the entity integrity & referential integrity constraints. What is their importance?
- Consider the relational database as follow:

Employee (emp name, street, city)

Works (emp name, company name, salary)

Company (company name, city)

Manager (employee name, manager name)

For the following queries, give an expression in relational algebra

- (a) Find name of all employees who work for first Bank Corporation.
- (b) Find the name, streets address & cities of residence of all employees who work for first Bank Corporation & earn more than rs 10,000 per annum.

- (c) Find the name of all employee who live in the same city & on the same street as do their managers
- (d) Find the name of all employees who do not work for first Bank Corporation.
 - what is functional dependency .Also Explain Dependency Preservation property of decomposition
 - What is the difference between 3NF & BCNF? Also, explain MVDs.

SECTION-D

✚ Write short on :-

- (a) Parallel Database
- (b) Concurrent Transaction
- (c) Data Warehouse & Data Mining
- (d) Data Base Recovery

- ✚ what is distributed Database. Explain its advantages over centralized system?
- ✚ Explain network & Hierarchical Model
- ✚ What does Database Recovery mean? Also, Explain Transaction life cycle.