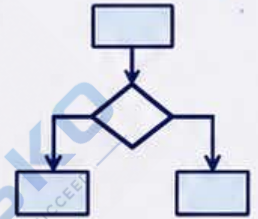
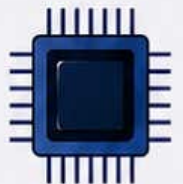


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## INSTRUCTIONS



These questions are selected based on previous year university exams.



Practice these questions to understand important concepts deeply.



Focus on frequently asked topics and their variations.



Solve these questions within the given time for better exam preparation.



Revise regularly and test yourself to improve your score.

Practice Smart • Stay Consistent • Score High!





# Relational Data Base Management System

## Most Important Topics

### Unit I: Introduction to Database and SQL

#### 1. Introduction to Database

Prepare:

- Data and Information
- Characteristics of Database
- Need of Database
- Relational Model

##### Important Question

Differentiate between Data and Information.

Explain the characteristics and needs of a database.

#### 2. Architecture of DBMS

A very important topic.

Prepare:

- DBMS Architecture
- Different levels of DBMS Architecture
- Role and responsibilities of DBA

##### Important Question

Explain the architecture of DBMS and the role of DBA.

#### 3. SQL

This is one of the **most important parts of the entire syllabus**.

Prepare:

##### SQL Introduction

- Features of SQL
- Advantages of SQL
- Data Types

- Operators

## SQL Components

You must clearly understand:

- **DDL:** CREATE, ALTER, DROP, TRUNCATE
- **DML:** INSERT, UPDATE, DELETE
- **DCL:** GRANT, REVOKE
- **TCL:** COMMIT, ROLLBACK, SAVEPOINT

## SQL Clauses

- ORDER BY
- GROUP BY
- HAVING
- WHERE

## 🔥 Must Practice Queries

- Create a table
  - Insert records
  - Update records
  - Delete records
  - Use WHERE
  - Sort using ORDER BY
  - Group records using GROUP BY
  - Filter groups using HAVING
-

## Unit II: Constraints, Views, Indexes and Functions

### 1. Constraints

Very important.

Prepare:

- Definition of Constraints
- Types of Constraints
  - NOT NULL
  - UNIQUE
  - PRIMARY KEY
  - FOREIGN KEY
  - CHECK

#### Important Question

Explain different types of constraints with examples.

### 2. Operations on Table with Constraints

Practice:

- Creating tables with constraints
- Adding constraints
- Inserting valid and invalid data
- Understanding Primary Key and Foreign Key

### 3. Views

Prepare:

- Definition of View
- Need of View
- Advantages of Views
- Types of Views

#### Important Question

What is a View? Explain its advantages and types.

## 4. Index

Prepare:

- Need of Index
- Types of Index
- Advantages of Index

## 5. Joins and Union

Very important for SQL queries.

### Joins

- Inner Join
- Left Outer Join
- Right Outer Join
- Full Outer Join

### Union

- UNION
- UNION ALL
- Types of Union operations

### Important Question

Explain different types of joins with suitable examples.

## 6. In-built Functions

Must prepare:

### Character Functions

Examples:

UPPER()

LOWER()

LENGTH()

SUBSTR()



## Number Functions

ROUND()

MOD()

ABS()

## Date Functions

SYSDATE

ADD\_MONTHS()

MONTHS\_BETWEEN()

## Group Functions

COUNT()

SUM()

AVG()

MAX()

MIN()

## Also Important

- Conversion Functions
  - Aliases
  - **NULL**
  - Subqueries
-

## Unit III: PL/SQL and Cursors

### 1. PL/SQL

Very important.

Prepare:

- Introduction to PL/SQL
- PL/SQL Data Types
- Block Structure of PL/SQL

The basic structure:

DECLARE

-- Variables

BEGIN

-- SQL / PL/SQL statements

EXCEPTION

-- Exception handling

END;

#### Also Important

- Exception Handling
- Types of Exceptions

#### Important Question

Explain the block structure of PL/SQL.

### 2. Cursors

High-priority topic.

Prepare:

- Definition of Cursor
- Types of Cursor
- Attributes of Cursor

- Life Cycle of Cursor

### **Cursor Attributes**

- %FOUND
- %NOTFOUND
- %ROWCOUNT
- %ISOPEN

### **Important Question**

Explain the types, attributes and life cycle of a cursor.

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## **Unit IV: Procedures, Functions, Triggers and Backup**

### **1. Procedures**

Prepare:

- Introduction
- Importance
- Advantages and Disadvantages
- Creating Procedures

### **2. Functions**

Prepare:

- Definition
- Importance
- Advantages and Disadvantages
- Creating Functions

### **Very Important**

Difference between Procedure and Function.



### 3. Triggers

One of the most important Unit IV topics.

Prepare:

- Definition of Trigger
- Types of Triggers
- Uses of Triggers

### 4. Backup and Recovery

Prepare:

- Introduction
- Archive / Transaction Logs
- Importance of Backup
- Database Recovery
- Transaction Control

#### Important Question

Explain Backup and Recovery in DBMS.

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## Overall Top 15 Most Important Topics

| Rank                                                                                | Topic                               |
|-------------------------------------------------------------------------------------|-------------------------------------|
|  1 | SQL Commands: DDL, DML, DCL and TCL |
|  2 | SQL Queries and Clauses             |
|  3 | Joins and their Types               |
| 4                                                                                   | Constraints and their Types         |
| 5                                                                                   | PL/SQL Block Structure              |
| 6                                                                                   | Cursors and Cursor Attributes       |
| 7                                                                                   | Procedures, Functions and Triggers  |
| 8                                                                                   | In-built SQL Functions              |
| 9                                                                                   | Subqueries                          |
| 10                                                                                  | Views                               |
| 11                                                                                  | DBMS Architecture and DBA           |
| 12                                                                                  | Indexes                             |

- 13 Backup and Recovery
- 14 Group Functions and GROUP BY / HAVING
- 15 Relational Model

## Best Preparation Priority

### First Priority 🔥🔥

**SQL Commands → SQL Queries → Constraints → Joins → Functions**

### Second Priority ★

**PL/SQL → Cursors → Procedures → Functions → Triggers**

### Third Priority

**Views → Indexes → DBMS Architecture → DBA → Backup and Recovery**

For **RDBMS**, I would give maximum attention to **writing and practicing SQL queries**, because topics such as **DDL, DML, constraints, joins, subqueries, in-built functions, PL/SQL blocks, cursors, procedures, functions, and triggers** are the core practical and theory areas of this syllabus.