FULL CURRICULUM · 2026

DBMS

Understand how the world's data is really stored.

Every module, every lesson — the complete syllabus, end to end.

23	204	4	₹12,500
MODULES	LESSONS	MONTHS	FULL PROGRAMME

What this course covers

1 Level 1 · Beginner

Introduction · Data Modelling · Database Design

1 month · **7** modules · **71** lessons · **₹3,000**

2 Level 2 · Intermediate

Oracle Sorting Data · Oracle Single-Row Functions · Oracle Conversion Functions

1 month · **7** modules · **47** lessons · **₹4,000**

3 Level 3 · Advanced

Oracle Set Operators · Oracle DDL Commands · Oracle DML Commands

2 months · **9** modules · **86** lessons · **₹5,500**

The whole journey

This is the complete syllabus for DBMS — 23 modules and 204 lessons, in the order you will learn them. The level markers show how far each stage carries you, but the curriculum runs as one continuous path from the first lesson to the last.

1

LEVEL 1

Beginner

Introduction · Data Modelling · Database Design

1 month · **7** modules · **71** lessons · **₹3,000**

1. Introduction

3 lessons

- Concepts and Characteristics of DBMS
- History and Evolution of Database
- Database System Architecture

2. Data Modelling

20 lessons

- Relational Database Model
- Entity Relationship Model
- Types of Attributes and their Symbols
- Connectivity of Relationships
- Degree of a Relationship
- Designing an ER Model
- Conversion from ER Model to Relational Model
- Conversion from ER Model to Relational Model_Composite Attributes
- Conversion from ER Model to Relational Model - Derived and Multi-valued Attributes
- Many to Many Relationship
- Many to One Relationships
- One to Many Relationships
- One to One Relationships
- Strong and Weak Entity Sets
- Strong and Weak Entity Sets_2
- Cardinality of a Relationship
- Total and Partial Participation
- Cardinality and Participation
- Examples
- Codd's Rules

3. Database Design

19 lessons

- Data Independence
- Keys in DBMS
- Functional Dependence
- Inference Rules
- Closure of Functional Dependencies
- Minimal Cover
- Fully Functional Dependency
- Transitive Dependency
- Multi Valued Dependency
- Normalization Process
- Computer Center Case Study
- First Normal Form_1
- Anomalies of the First Normal Form
- First Normal Form_2
- Second Normal Form
- 1Third Normal Form
- 1Boyce Codd Normal Form
- 1Fourth Normal Form
- 1Fifth Normal Form

4. Relational Algebra

12 lessons

- Relational Query Languages
- Basics of Relational Algebra
- Select Operation
- Projection Operation
- Rename Operation
- Union Operation
- Intersection Operation
- Set Difference Operation
- Cartesian Product Operation
- Joins
- Relational Algebra Queries_1
- Relational Algebra Queries_2

5. Oracle Introduction

3 lessons

- Introduction
- DESCRIBE Command
- SQL Statement Basics

6. Oracle Retrieving Data

6 lessons

- Select Statements
- Column Aliases
- Quote Operator
- DISTINCT and UNIQUE Operator
- Concatenation Operator
- Arithmetic Expressions

7. Oracle Receiving

8 lessons

- WHERE Clause
- Comparison Operators
- BETWEEN ... AND Operator
- IN Operator
- LIKE Operator
- IS NULL Operator
- Logical Operators
- Rules of Precedence

2

LEVEL 2

Intermediate

Oracle Sorting Data · Oracle Single-Row Functions · Oracle Conversion Functions

1 month · **7** modules · **47** lessons · **₹4,000**

8. Oracle Sorting Data

4 lessons

- ORDER BY Clause
- ASC and DESC Operators
- NULLS FIRST and NULLS LAST
- ROWID and ROWNUM

9. Oracle Single-Row Functions

10 lessons

- Single Row Functions
- Case Conversion Functions
- Character Manipulation Functions
- Numeric Functions
- Nested Functions
- Date Values and Formats
- Date Format Models
- Date Functions and Arithmetic Operators
- Date Manipulation Functions
- Number Format Models

10. Oracle Conversion Functions

4 lessons

- Oracle Conversion Functions
- Implicit Conversion Examples
- TO_CHAR Function
- NVL, NVL2, NULLIF and COALESCE Functions

11. Oracle Group Functions

8 lessons

- Group Functions
- AVG Function
- COUNT Function
- MAX Function
- MIN Function
- SUM Function
- LISTAGG Function
- Overview of Group Functions

12. Oracle Grouping Data

4 lessons

- GROUP BY Clause - 1
- GROUP BY Clause - 2
- HAVING Clause
- Nested Group Functions

13. Oracle Joins

13 lessons

- Join
- Creating a Join
- Natural Join
- Join with USING Clause
- Handling Ambiguous Column Names
- INNER Join
- Multiple Join Operations
- Restricting Joins
- SELF Join
- Non-Equijoins
- OUTER Joins
- CROSS Join
- Join Types

14. Oracle Subqueries

4 lessons

- Subqueries
- Single Row Subqueries
- Multiple Row Subqueries
- Multiple Column Subqueries

3

LEVEL 3

Advanced

Oracle Set Operators · Oracle DDL Commands · Oracle DML Commands

2 months · **9** modules · **86** lessons · **₹5,500**

15. Oracle Set Operators

7 lessons

- SET Operators
- UNION and UNION ALL Operators
- INTERSECT Operator
- MINUS Operator
- Matching Unmatched Queries
- ORDER BY with SET Operators
- Combining Multiple Queries with SET Operators

16. Oracle DDL Commands

7 lessons

- Data Definition Language
- Database Object Naming Rules
- CREATE TABLE Statement
- ALTER TABLE Statement
- DROP TABLE Command
- TRUNCATE TABLE Statement
- RENAME TABLE Statement

17. Oracle DML Commands

5 lessons

- Data Manipulation Language
- INSERT Statement
- INSERT INTO SELECT Statement
- UPDATE Statement
- DELETE Statement

18. Oracle Constraints

6 lessons

- Constraints
- NOT NULL Constraint
- UNIQUE Constraint
- Primary Key Constraint
- Foreign Key Constraint
- Check Constraint

19. Oracle PLSQL

4 lessons

- Introduction
- Procedure
- Trigger
- Functions

20. Storage and Querying

15 lessons

- Disk Management
- Pages and Blocks
- Time to Access a Page
- Heap Files
- Index and Index Structure
- Sorted Files
- Storage Structure
- Clustered Index
- Unclustered Index
- Problem on Cost of Range Search
- Sparse Versus Dense Index
- Two Level Index
- Multi Level Index
- Query Processing
- Query Optimization

21. Transaction Management

31 lessons

- Transactions
- Concurrent Execution of Transactions
- Inconsistency Problem
- States of a Transaction
- ACID Properties
- Schedules
- Lost Update Problem
- Dirty Read Problem
- Unrepeatable Read Problem
- Phantom Read Problem
- Recoverable and Non-Recoverable Schedule
- Cascadeless and Cascading Schedules
- Recoverable and Cascadeless Schedules
- Example Problem
- Strict Schedule
- Recoverable, Cascadeless and Strict Schedules
- Important Point
- Equivalence of Schedules
- Conflicting Actions
- Conflict Equivalence and Equivalence of Schedules
- Conflict Serializability of a Schedule
- Test for Conflict Serializability
- Number of Conflict Serializable Schedules
- Example Problems
- View Equivalence and View Serializability
- Problems on View Serializability
- Additional Problems on View Serializability
- Shared and Exclusive Locking Protocol
- Two Phase Locking
- Strict and Rigorous Phase Locking Protocols
- Recovery Techniques

22. NoSQL Databases and Big Data Storage Systems

5 lessons

- Introduction to NoSQL Databases
- Types of NoSQL Databases
- BASE Properties
- CAP Theorem
- Big Data

23. Data Warehousing

6 lessons

- Introduction
- Components of Data Warehouse
- Data Warehouse Architecture
- Online Analytical Processing
- Online Transaction Processing
- OLAP Versus OLTP

Certificates & what comes next

You receive a certificate at the end of every level you finish. Join for a single level or the full programme — the choice is yours. Learners who stand out may be invited to work on live client projects as interns; these places are merit-based, limited, and depend on projects being available.