

# GHAR SE CODE {

## *SQL Syllabus:-*

Course Title: SQL

Course By: GSC (GHAR SE CODE)

Duration: 30 Hrs

Code Spirit: “Validate with LIMIT & TEST”

Module	Topic	Detailed Overview
1	<b>Introduction to SQL</b>	- What is SQL?- Relational databases overview- SQL syntax basics- Setting up: SQLite, MySQL, PostgreSQL
2	<b>Data Definition Language (DDL)</b>	- CREATE, DROP, ALTER, TRUNCATE- Creating databases and tables- Data types (INT, VARCHAR, DATE, etc.)
3	<b>Data Manipulation Language (DML)</b>	- INSERT, UPDATE, DELETE- Inserting single/multiple rows- Updating with WHERE conditions- Deleting safely
4	<b>Basic SELECT Queries</b>	- SELECT, DISTINCT, WHERE- Filtering with conditions, logical operators- Sorting results with ORDER BY
5	<b>Functions and Expressions</b>	- String functions: UPPER(), CONCAT(), SUBSTR()- Math functions: ROUND(), MOD()- Date functions: NOW(), DATEDIFF()
6	<b>Aggregate Functions and GROUP BY</b>	- COUNT(), SUM(), AVG(), MIN(), MAX()- Grouping with GROUP BY- Filtering groups with HAVING
7	<b>Joins and Relationships</b>	- INNER JOIN, LEFT JOIN, RIGHT JOIN, FULL JOIN- Joining multiple tables- Understanding foreign keys
8	<b>Subqueries and Nested SELECTs</b>	- Inline subqueries- Correlated vs uncorrelated subqueries- Using subqueries in WHERE, FROM, SELECT
9	<b>Set Operations</b>	- UNION, INTERSECT, EXCEPT- Removing duplicates with UNION ALL

Module	Topic	Detailed Overview
10	<b>Views and Indexes</b>	- Creating and using VIEW- INDEX basics- Performance considerations
11	<b>Transactions and Constraints</b>	- ACID properties- BEGIN, COMMIT, ROLLBACK- Constraints: PRIMARY KEY, FOREIGN KEY, CHECK, UNIQUE, NOT NULL
12	<b>Capstone Project / Practice</b>	- Real-world database design- Writing queries across multiple tables- Report generation, analytics case study (e.g., sales, HR, e-commerce)

}