SQL (STRUCTURED QUERY LANGUAGE)

SQL – LTIMindtree Associate Trainee SPECIFIC QUESTIONS & ANSWERS

◈ PART 1

Q1. Service company projectsలో SQL ఎందుకు చాలా ముఖ్యము?

Answer:
Most applications are data-driven. SQL is required to store, retrieve, and update client data accurately and efficiently.

Q2. Associate Trainee నుండి SQL లో ఏమి expect చేస్తారు?

Answer:
Clear understanding of tables, keys, basic queries, joins conceptually, and ability to read and write simple queries.

Q3. SQL developer కాకపోయినా SQL ఎందుకు తెలుసుకోవాలి?

Answer:
To understand data flow, debug issues, and communicate effectively with backend and database teams.

Q4. What kind of SQL mistakes eliminate freshers?

Answer:
Not understanding keys, guessing query outputs, and confusing DELETE/TRUNCATE/DROP.

◈ PART 2

SQL (STRUCTURED QUERY LANGUAGE)

CORE SQL INTERVIEW QUESTIONS (ANY COMPANY | ANY ROLE)

ఇవి EVERGREEN.
ఇవి రాకపోతే SQL fundamentals weak.

Q1. What is SQL?

Answer:
SQL is a language used to communicate with databases for storing and retrieving data.

Q2. What is a database?

Answer:
A structured collection of data stored electronically.

Q3. What is a table?

Answer:
Table stores data in rows and columns.

Q4. What is a row and column?

Answer:
Row represents a record. Column represents an attribute.

Q5. What is primary key?

Answer:
Primary key uniquely identifies each record and does not allow NULL or duplicate values.

Q6. What is foreign key?

Answer:
Foreign key creates a relationship between two tables.

Q7. What is DBMS?

Answer:
DBMS is software used to manage databases.

Q8. Difference between DBMS and RDBMS?

Answer:
RDBMS supports relations and tables, DBMS may not.

◈ PART 3

BASIC – CRITICAL – PROGRAMMING / QUERY (3 TYPES)

◈ A. BASIC SQL QUESTIONS (Foundation Check)

1. What is SELECT statement?
Ans: Retrieves data from table.

2. What is WHERE clause?
Ans: Filters rows based on condition.

3. What is INSERT?
Ans: Adds new records.

4. What is UPDATE?
Ans: Modifies existing records.

5. What is DELETE?
Ans: Removes records.

◈ B. CRITICAL SQL QUESTIONS (Elimination Level)

Q1. Difference between WHERE and HAVING?

Answer:
WHERE filters rows before grouping. HAVING filters groups after aggregation.

Q2. Difference between DELETE, TRUNCATE, DROP?

Answer:
DELETE removes rows.
TRUNCATE removes all rows quickly.
DROP removes table completely.

Q3. What happens if primary key is missing?

Answer:
Duplicate records and data integrity issues occur.

Q4. How do you avoid duplicate records?

Answer:
By using primary key and unique constraints.

Q5. What is normalization?

Answer:
Process of organizing data to reduce redundancy.

Q6. What is index?

Answer:
Index improves query performance by speeding up data retrieval.

Q7. What happens when foreign key constraint fails?

Answer:
Insert or update operation fails.

Q8. What is NULL?

Answer:
NULL represents missing or unknown value.

◈ SQL.PROGRAMMING / QUERY LOGIC QUESTIONS

(Explain Logic – Syntax perfect అవసరం లేదు)
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1. Fetch all employees with salary > 30000

Logic:
Use SELECT with WHERE condition.
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2. Find number of employees in each department

Logic:
Use GROUP BY with COUNT().
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3. Find duplicate records in a table

Logic:
Group by column and use HAVING COUNT > 1.

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4. Update salary by 10% for a department

Logic:
Use UPDATE with WHERE condition.

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5. Delete records older than a date

Logic:
Use DELETE with date condition.

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6. Difference between INNER JOIN and LEFT JOIN (logic)

Logic:
INNER JOIN returns matching rows only.
LEFT JOIN returns all left table rows with matching right table data.

🟤 SQL – COMMON TRAPS & SAFE ANSWERS

Trap 1: “TRUNCATE is same as DELETE”

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✅ Safe:
DELETE is DML and can rollback.
TRUNCATE is DDL and cannot rollback.

Trap 2: Guessing JOIN output

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✅ Safe:
“Let me explain the logic of how rows are matched.”

Trap 3: Ignoring NULL behavior

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✅ Safe:
“NULL needs IS NULL check, not = operator.”

🟤 GOLDEN SAFE LINE (Teach Students)

> “I may not remember exact query syntax, but logically this is how data is filtered and grouped.”