Oracle Standard SQL contents (Includes ANSI SQL / ISO SQL)

Many new topics added apart from Oracle Standard curriculum based on real-time requirements in various domain (Manufacturing / Finance / Human resource / Inventory / Insurance) various Data Warehouse.

1. Basic DATABASE Concept and SQL
Basic history of database concept: DBMS, RDBMS, ORDBMS
Advantage of ORACLE database and version information
Interface tools usage: sqlplus, isqlplus, sqldeveloper, Toad
SQL Language overview : DQL, DML, DDL, DCL, TCL
What is the usage of ANSI standard.
SELECT Command - Column Alias Rules, String data,
Concatenations with various data
Null Value handling with number and characters,
Arithmetic Operator
Concatenation Operator,
Eliminating Duplicate Rows

2. Restricting and Sorting Data
WHERE Clause - Character Strings and Dates, number
General Comparison Conditions = > >= < <= <>
Other Comparison BETWEEN , IN , LIKE , NULL
Logical Conditions AND OR NOT
ORDER BY Clause, Sorting by Column Alias , Column Position, Multiple Columns

3. Single-Row Functions
Character Functions: UPPER, LOWER, INITCAP, LENGTH, SUBSTR, INSTR, LPAD, RPAD,
                        CONCAT, LTRIM, RTRIM, TRIM, REPLACE, TRANSLATE, REVERSE

Number Functions: ROUND, TRUNC, MOD, POWER, CEIL , FLOOR, ABS

Dates Functions: SYSDATE, MONTHS_BETWEEN, NEXT_DAY,
                        LAST_DAY, ADD_MONTHS, ROUND, TRUNC, Arithmetic on Date

Conversion Functions: Implicit Data-Type Conversion & Explicit Data-Type Conversion,
                        TO_CHAR ,TO_NUMBER ,TO_DATE

General Functions: NVL , NVL2 , NULLIF, COALESCE

CASE Expression, DECODE

Nested function with real-time usage

4. JOINS
EQUI JOIN / SIMPLE JOIN / NORMAL JOIN
ANSI JOIN, LEFT OUTER, RIGHT OUTER, FULL OUTER
NATURAL JOIN, NATURAL OUTER JOINS
INNER JOIN, JOIN ... USING clause,   JOIN ... ON clause,
CROSS JOIN, NON-EQUI JOIN, SELF JOIN
ORACLE STANDARD OUTER JOINS.
Multi table Joins, Complex Joins – How to simplified complex joins.

5. Multi-row Functions
Group Functions Rules, SUM, MIN, MAX, COUNT, AVG
Creating Groups of Data: GROUP BY Clause
Filtering Group Results: The HAVING Clause

6. Sub-queries
Single-Row Subqueries- Rules, Operators : = > >= < <= <>
Null Values in a Subquery
Multi-Row Subqueries- Rules, Operators : IN, ANY , ALL

7. Reporting data using interface commands
pagesize, linesize , column heading , column format , colsep
tTitle , bTitle , break on column, spool , CSV file generation, Text file generation

8. Data Manipulation Language DML and Transaction Control Language TCL
DML : INSERT, UPDATE, DELETE, MERGE
TCL : COMMIT, ROLLBACK, SAVEPOINT

9. Data Definition Language - DDL
DDL : CREATE, ALTER, RENAME, DROP, TRUNCATE
DEFAULT OPTION.
Constrain table copy

10. Constraints
NOT NULL, UNIQUE, PRIMARY KEY, FOREIGN KEY, CHECK
Column Level Constraint, Table Level Constraint – Naming constraints and usage
Adding a Constraint, Dropping a Constraint,
Disabling Constraints, Enabling Constraints
Validating Constraints

11. Views
Simple Views and Complex Views – Create, Drop, Source Code
Rules for Performing DML Operations on a View
WITH CHECK OPTION , WITH READ ONLY
Inline Views
Materialized View – Create, Refresh, Drop - Usage

12. Other Database Objects
Sequence- NEXTVAL and CURRVAL
Index - When to Create an Index, When Not to Create an Index.
Synonyms

13. DCL COMMANDS
Creating Users
Granting / Revoking Privileges
Creating and Granting Privileges to a Role

14. Dictionary Tables
Tables, Views, Synonyms, Index, Sequence, Constrains, Source and other Dictionary

15. SET Operators
UNION ,
UNION ALL ,
INTERSECT ,
MINUS

16. Advanced Date-time Functions
TIME ZONES ,
SYSDATE, SYSTIMESTAMP,
CURRENT_DATE , CURRENT_TIMESTAMP
SESSIONTIMEZONE ,
Storing time zone data in Table
EXTRACT ,
TO_YMINTERVAL

17. Advanced GROUP BY Clause
Group by with ROLLUP,
Group by with CUBE,
GROUPING SETS

18. Advanced Subqueries
Pairwise Comparison Subquery ,
Nonpairwise Comparison Subquery
Correlated Subqueries,
Correlated UPDATE,
Correlated DELETE
EXISTS , NOT EXISTS Operator

19. Hierarchical Retrieval
Walking the Tree: From the Bottom Up , From the Top Down
LEVEL Pseudo column,
Connect by prior,

20. Multi-table Insert
Unconditional INSERT ALL
Conditional INSERT ALL
Conditional FIRST INSERT

21. DATA LOADER –
SQLLDR – Loading CSV file / Flat file into ORACLE table.

22. Analytic Functions
WM_CONCAT, LAG, LEAD, RANK, DENSE_RANK
Query_by partition_clause with sum, min, max, avg, count,
order_by_clause with sum, min, max, avg, count,
Psudo column : Rownum, Rowid, - Elimination duplicate data
Connect by rownum , Connect by Level – Generating random numbers, random dates,
Quote Operator syntax and usage

23. Backup
Export / Import SCHEMA
- using TOAD
- using ORACLE direct command

24. General discussion
What is migration?
Migration Estimating, Planning, Preparation – Simple Scenario / Complex Scenario.