UNIT 1 – DATABASE CONCEPTS & DESIGN

1. Database and DBMS – definitions and advantages.
2. Relational data model.
3. Integrity rules.
4. Theoretical relational languages.
5. Data modeling concepts.
6. Functional dependency.
7. Database design process.
8. Normalization – 1NF, 2NF, 3NF, BCNF.
9. Dependency diagrams.
10. De-normalization with example.

UNIT 2 – ORACLE9i & SQL*PLUS

1. Overview of Oracle9i.
2. Personal vs Client/Server databases.
3. SQL*Plus environment.
4. SQL*Plus commands.
5. Logging into SQL*Plus.
6. Errors and help commands.
7. Alternate text editors.
8. iSQL*Plus.
9. Oracle data types.
10. Constraints.
11. Creating tables.
12. Displaying table information.
13. Alter, drop, rename, truncate table.
14. Table types.
15. Spooling and error codes.

UNIT 3 – WORKING WITH TABLES

1. DML commands.
2. Insert, update and delete operations.
3. Retrieving data using SELECT.
4. Arithmetic operations.
5. WHERE clause.

6. Sorting data using ORDER BY.
7. Substitution variables.
8. DEFINE command.
9. CASE structure.
10. Built-in functions.
11. Grouping data.
12. Joins.
13. Set operations.

UNIT 4 – PL/SQL

1. History and features of PL/SQL.
2. PL/SQL block structure.
3. Data types in PL/SQL.
4. Declaration and assignment.
5. Bind and substitution variables.
6. Printing output.
7. Control structures.
8. Nested blocks.
9. SQL in PL/SQL.
10. Transaction control statements.
11. Cursors – implicit and explicit.
12. Cursor attributes.
13. Cursor FOR loops.
14. SELECT…FOR UPDATE.
15. Exceptions – types and handling.

UNIT 5 – PL/SQL COMPOSITE DATA TYPES

1. PL/SQL records.
2. PL/SQL tables.
3. Arrays.
4. Procedures.
5. Functions.
6. Packages.
7. Triggers.
8. Data dictionary views.