Unit-1

- data warehouse and explain its purpose in business intelligence.
- Differentiate between OLAP and OLTP
- Entity-Relationship Diagram
- Compare and contrast star and snowflake schemas.
- SQL and its role in database management.
- categories of SQL commands.
- Joins (Inner, Outer, Left, Right, Cross):

Unit-2

- data modeling, and its key components of a data model.
- Data Model vs. Floor Model
- Relational vs. Non-Relational Schemas
- Syntax for creating tables, altering their structure, and defining constraints.
- Syntax for INSERT, UPDATE, DELETE, and SELECT statements.
- Nest Queries and the concept of indexing in the context of a database.
- data integrity

Unit-3

- purpose of rank functions in SQL.
- Partitioning and Frames:
- examples of simple and searched CASE statements.
- UDF, stored procedures and discuss their advantages.
- types of cursors and their characteristics.
- Cursor vs View
- Clustered vs. Non-Clustered Indexing
- key metrics used in profitability analysis.
- techniques and best practices for detecting anomalies in data.

Unit-4

- importance of data visualization in data analysis.
- techniques for handling missing data in a dataset.
- Outliers Analysis with Visualizations such as Boxplots for Outliers, Histogram and Distribution Plots
- Various Types of Charts and Plots
- scenarios where scatter plots are particularly useful.
- examples of interactive features available in Plotly.

Unit-5

- Tableau and its role in data visualization.
- key features and capabilities of Tableau.
- advantages of Tableau.
- Tableau vs. Excel and Power BI
- Bar Charts, Line Charts, and Filters
- Dimensions in Tableau.

Unit-6

- functions in Tableau.
- Histograms and Parameters
- concept of dual-axis charts in Tableau.
- purpose of dashboards in Tableau.
- concept of filter actions in Tableau dashboards.
- storytelling in Tableau, and its importance
- table calculations, and usage