

- 1. Introduction to Data Warehouse**
 - a. What is a data warehouse
 - b. What is data warehousing
 - c. What is Business Intelligence (BI)
 - d. Characteristics of Data Warehouse
 - e. Operational Systems (OLTP) and Analytical Systems (OLAP)
 - f. Advantages and Disadvantages of Data Warehouse
 - g. Database vs. Data Warehouse
- 2. Data Warehouse – A Deep Dive**
 - a. Data Warehouse Architecture
 - b. Introduction to DSS
- 3. Database and Data Warehouse Keys**
 - a. Concept of Primary Key (Database Key)
 - b. Concept of Foreign Key (Database Key)
 - c. Concept of Surrogate Key (Data Warehouse key)
 - d. Other types of keys
- 4. Data Warehouse Design**
 - a. Dimensional Modelling
 - i. STAR Schema
 - ii. Snow Flake Schema
 - b. Subject Area Model
 - c. Types of Facts and Dimensions
- 5. Data Marts**
 - a. What is Data Mart
 - b. What is Data Mining
 - c. Difference between Data Mart and Data Warehouse
 - d. Types of Data Mart
 - e. Advantages and Disadvantages of Data Marts
- 6. ETL Concepts**
 - a. What is ETL and ELT
 - b. Importance of ETL Testing
 - c. Concepts of Data Extraction
 - d. Concepts of Data Transformation
 - e. Concepts of Data Loading
- 7. ETL Architecture**
 - a. Detailed ETL Architecture
 - b. Change Data Capture and Slowly Changing Dimensions (SCDs)
 - i. SCD Type 1, SCD Type 2 and SCD Type 3
- 8. ETL Testing Process**
 - a. Pre-requisites/documents needed to start with ETL Testing
 - b. Test Process
 - i. ETL Test Plan/Strategy
 - ii. ETL Test Case Design
 - iii. ETL Test Execution
 - c. Major Validations to be performed
 - d. Defect Reporting and Tracking
- 9. ETL Testing Challenges**
- 10. List of ETL Tools with Special Introduction to Informatica**

- a. Overview of Informatica Workflows
- b. Overview of different Informatica Transformations
- c. Overview of using Informatica for ETL process and testing

11. Overview of Reports Testing

- a. What is Report testing
- b. Types of Reports
- c. Overview of Data Cubes
- d. Testing reports with UI and Data Base
 - i. Understanding the report requirement
 - ii. Test Data preparation (Covers the concept of Batch Processing)
 - iii. Test Case preparation
 - iv. Test Execution
 - v. Defect tracking process and Test Result Preparation
- e. Different Reporting tools

12. Important SQL Concepts for ETL Testing*

- a. Set operators
- b. Joins
- c. Sub-queries
- d. Group By... HAVING

13. Interview Questions

14. Sample Project

**This topic will be included in the course based on the participants' comfort level with SQL*