S.C.O.D.E.E.N GLOBAL
School Of Code Engineering

SCODEEN GLOBAL – Software Testing Syllabus

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Software Testing

Introduction to Software Testing

▶ **Software testing**

▶ **BRS/SRS**

▶ **SDLC**

- Waterfall

- Agile

- V model etc..

Software Testing

Unit Testing(White Box Testing)

- Execution testing

- Operational testing

- Mutation testing

Software Testing

Black Box Testing (Functional and Non Functional)

▶ **GUI Testing**

▶ **Behavioural testing**

▶ **Error handling message testing**

▶ **Backend testing**

▶ **Language Compatibility Testing**

▶ **Cross browser testing**

▶ **Sanitization testing**

▶ **Installation testing**

Software Testing

Integration Testing

- ▶ **Top Down Approach**
- ▶ **Bottom Up Approach**
- ▶ **Hybrid**

- ▶ **Performance Testing**
- ▶ **System integration testing**
- ▶ **Sanity Testing**
- ▶ **Smoke Testing**
- ▶ **Regression Testing**
- ▶ **Retesting**
- ▶ **User acceptance testing**
  - • **Alpha testing**
  - • **Beta testing**

Software Testing

Testing Terminology

- Monkey testing
- Exploratory testing
- Ad hoc testing
- Big Bang approach

Test Documents Concepts

- Test policy
- Test methodology
- Test strategy
- Test deliverables
- Test plan
- Test scenarios
- Test case preparation
- Software testing life cycle

HPALM

Project Management tool(HPALM)

▶ **How to Write test cases in ALM?**

▶ **How to execute test case?**

▶ **How to raise the defect?**

▶ **What is severity?**

▶ **What is priority?**

▶ **Traceability matrix**

▶ **Defects**

Database Testing

- ➤ **What is Data?**
- ➤ **What is Database?**
- ➤ **DBMS VS RDBMS?**
- ➤ **Roles/Responsibilities**
- ➤ **Sql statements**
    - I. **DDL**
    - II. **DML**
    - III. **DCL**
    - IV. **TCL**

Sql Operators
- ➤ **Arithmetic**
- ➤ **Comparison**
- ➤ **Logical**
- ➤ **Set**
- ➤ **Like**
- ➤ **Concatenation**

Database Testing

SQl functions

- ➤ **Aggregate**
- ➤ **Character**
- ➤ **Date**
- ➤ **Conversion**

Sql clauses

- ➤ **Where**
- ➤ **Group by**
- ➤ **Having**
- ➤ **Order by**

Database Testing

Sql constraints
- ➤ **Primary key**
- ➤ **Unique**
- ➤ **Check**
- ➤ **Not null**
- ➤ **Default**
- ➤ **Foreign key**
- ➤ **Composite key**

Sql joins
- ➤ **Inner join**
- ➤ **Left outer**
- ➤ **Right outer**
- ➤ **Full outer**
- ➤ **Equi join**
- ➤ **Non equi join**
- ➤ **Cross join**
- ➤ **Self join**
- ➤ **Multiple table joins**

Database Testing

Pseudo columns

➢ **Rank()**

➢ **Dense_rank()**

➢ **Rownum**

➢ **Rowid**

PlSql

➢ **Store procedures**

➢ **Triggers**

➢ **Views**

▶ **Interview Question discussion**

Data Warehousing – ETL + BI Testing

Data Warehouse Concepts:

➢ Introduction of Analytical system , Data Warehouse and ETL Process

➢ Architecture/technical Flow/Data Flow/High level Design of data warehouse

➢ Differences between OLTP and OLAP.

➢ Normalization and De-Normalization.

➢ Difference between relational and dimensional modelling.

➢ Introduction of Fact table, Dimension table and It's Types

➢ Surrogate Key

➢ Data Mapping Document

Data Warehousing – ETL + BI Testing

Data Warehouse Concepts:

➤ Data Models:
  a) Conceptual Model
  b) Logical Model
  c) Physical Model

➤ Star Schema, Snowflake Schema, Galaxy Schema

➤ Types of facts :a) Additive Facts b) Semi Additive Facts c) Non Additive Facts

➤ Types of Dimensions: a) SCDs 0,1,2,3,4,6

Data Warehousing – ETL + BI Testing

Data Warehouse Concepts:

➢ Types of Dimensions: b) Degenerated dimensions c) Conformed Dimension d) rapidly Changing dimension e) Junk Dimension

➢ What is Surrogate Key ?

➢ Types of Fact Table

➢ Story of SP_ETL Project for SCD 1 and 2.

➢ Data Mapping Documents

Data Warehousing – ETL + BI Testing

ETL Tool and Sql Server/Oracle IDE:

➢ SQL Server Integration Services Tool (SSIS) or Informatica or Talend or Query surge

➢ What is Job/Scheduler ?

➢ Sql Server Management Studio Tool (SSMS)/Dbeaver

Data Warehousing – ETL + BI Testing

ETL Testing and Report Testing :

➢ What is ETL Testing and importance of ETL testing

➢ Difference between ETL Testing and Database Testing

➢ Types of ETL Testing : I) Meta Data Testing ii) Data Completeness Testing iii) Data transformation Testing iv) Data Quality Testing v) Retesting

 vi) Regression Testing

➢ Story of TRG_ETL Project.

➢ What is Test Scenarios ?

Data Warehousing – ETL + BI Testing

ETL Testing and Report Testing :

➢ What is Test cases ?

➢ Test case Writing

➢ Test Case Execution

➢ Roles and Responsibilities of ETL tester

➢ Software Testing Life Cycle

➢ Challenges in ETL testing

➢ Introduction of Tableau

➢ Report testing

Tools

1. SQL Developer
2. Sql server management studio
3. Visual studio +SSIS
4. Tableau
5. HPALM
6. Putty

Web Service Testing/File Processing

Web service testing

➢ Soap UI

File processing

➢ EDI

➢ CSV

Unix

- Software
- Types of OS
- Introduction of Unix
- Architecture of Unix
- File Architecture of Unix

Basic Unix Commands

- Date
- Cal
- History
- Man
- Who
- Passwd
- Hostname
- Pwd

Unix

Interview Questions on Unix Commands

- Cat
- Less
- More
- Touch
- Wc
- Cp
- Mv

- Rm
- Mkdir
- Rmdir
- Cd
- Ls
- Head & Tail
- Grep
- Sed

- Find
- Locate
- Chmod
- Ftp
- SSH

Automation Testing

1: Introduction to Python

➢ Installation and Working with Python

➢ Understanding Python variables

➢ Python basic Operators

➢ Understanding python blocks

➢ Type casting, Unicode etc.

Automation Testing

2: Python Data Types

➢ Declaring and using Numeric data types: int, float, complex, bool

➢ Using string data type and string operations

➢ Defining list and list slicing

➢ Use of Tuple data type

Automation Testing

2: Python Data Types

➢ Declaring and using Numeric data types: int, float, complex, bool

➢ Using string data type and string operations

➢ Defining list and list slicing

➢ Use of Tuple data type

Automation Testing

3: Python Program Flow Control

➢ Conditional blocks using if, else and elif

➢ Simple for loops in python

➢ For loop using ranges, string, list and dictionaries

➢ Use of while loops in python

➢ Loop manipulation using: pass, continue, break

➢ Programming using Python conditional and loops block

Automation Testing

4: Python String, List, set and Dictionary Manipulations

➢ Building blocks of python programs

➢ Understanding string in build methods

➢ List manipulation using in build methods

➢ Tuple operation

➢ Set manipulation

➢ Dictionary manipulation

Automation Testing
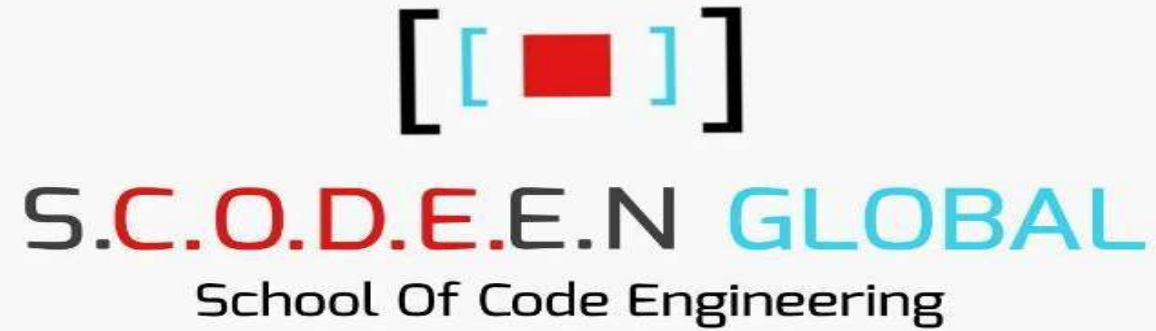
5: Fundamentals of Object orientation:

➤ Class, Object

➤ Constructor

➤ Types of Variables

➤ Methods and its types

➤ Importing Class

➤ OOP's Concepts: Inheritance, Encapsulation, Abstraction, Polymorphism

➤ File handling: text, binary, csv

Projects

- CRM
- Payment Domain
- Telecom Domain (CRM+OSS+Mediation+BSS)
- ETL-BI Project
- Logistic Domain
- Banking Domain
- Investment Bank Domain

Post Course Completion Operations

➢ **Technical interviews + Hr interviews**

➢ **Resume building**

Thank You !!

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