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Diploma in Software Testing

Duration: 3 Months (90-100 Hours)

Prerequisites

- Basic Knowledge of Computer.

Module I: Basic Software Testing

Manual Testing

1. **Fundamentals of Testing**
   - What is Software Testing?
   - What is Software Bug
   - Testing Principles
   - When to Start/Stop Testing?
2. **Application Architecture**
   - Desktop/Stand–alone Environment
   - Client Server Environment
   - Web Based Environment
3. **SDLC and STLC**
   - SDLC Phases
   - Various SDLC Models
   - Waterfall Model
   - Iterative and Incremental model
   - STLC Phases
   - Types of Testing
   - Methods of Testing
   - Static and Dynamic Testing
4. **Verification and Validation**
   - Verification
   - Methods of Verification
   - Validation
   - Levels of Testing
   - V Model
5. **Functional and Non Functional testing**
   - Functional Testing
     - Unit Testing
     - Integration Testing
     - System Testing
     - User Acceptance Testing
     - Regression Testing
     - Retesting
   - Non Functional Testing
     - Performance Testing
     - Load Testing
     - Stress Testing
     - UI and Usability Testing
     - Security Testing
     - Portability Testing
     - Compatibility Testing
   - Other Special Testing Types
6. **Test Management**
   - Test Plan Template
   - Usecase Testing
   - Scenario Testing
   - Testcases & Test Data
   - Testcases Template
   - Test Design Technique
7. **Defect Management**
   - What is Defect/Bug?
   - Reason for Defects in Software
   - Defect Tracking System
   - Defect Life Cycle
   - Attributes of Defect
8. **Bugzilla Defect Tracking Tool**
   - How to Report a Bugs
   - Priority of Bugs
   - Report Generation
9. **Quality Center (QC-Overview)**
   - Opening QC
   - Requirements tab
   - Test Plan tab
   - Test lab tab
   - Defects tab
   - Report and analysis of result

Database Concepts (Oracle SQL)

1. Introduction to Database
2. DBMS, RDBMS, ORDBMS
3. DDL, DML, DCL, TCL
4. Data types
5. SELECT Statement
6. Restricting and Sorting Data
7. Aggregating Data using Group Functions
8. Manipulating Data
9. Sub queries
10. Important Functions
11. Joins and different types

Module II: Automation Testing Tool (SELENIUM)

Core Java

1. **Overview of Java**
   - OOP's , Data Types and Variables
   - Operators, Control Structures
   - Strings, Arrays
2. **Objects and Classes**
   - Object, Classes and Methods
   - Method Overloading
   - Constructors
3. **Inheritance**
   - Types of Inheritance
   - Method Overriding
4. **Packages and Interfaces**
   - Defining Packages
   - Extending Interfaces
5. **Exception Handling**
   - Fundamentals of Exception Handling
   - Exception types
   - Try and Catch and finally
   - Multiple Catch
6. **Collections Framework •**
   - Collection Interfaces and Classes
   - Iterator, Map , HashMap

Basic Selenium

1. **Introduction to Automation Testing**
   - What is Automation Testing?
   - Which Test Cases to Automate?
   - Different Automation tools
   - Automation challenges & Mitigations
2. **Introduction to selenium**
   - What is selenium?
   - History and various versions of selenium
   - Advantages of using Selenium over other tools.
   - Selenium components
3. **Selenium-IDE**
   - Introduction
   - IDE Features
   - Building & Running Test Cases
   - Building and Running Test Suites
4. **Selenium Web Driver 2.0**
   - Why Selenium Web Driver
   - Automation Setup for Selenium Web Driver
   - Configuration of Selenium Jar using Eclipse
5. **Selenium Commands**
   - What is a Driver
   - Different methods of finding element
     - By ID, By name
     - By Xpath, By Tag name
     - By class name
     - By Link text
   - Various types of operation that can be performed on any elements and how to use them.
   - capturing Screen shots
   - Handling Keyboard Event and Mouse Event
   - Multiple Window Handling
   - Pop Up Handling.
   - Preparing basic Automation Scripts and running them
   - Creating Re usable class and their implementation in creating Test Scripts
   - Parameterizing Test Scripts using Excel
   - Creating Test Suites

Advanced Selenium

1. **Framework Designing**
   - What is Framework
   - What is a Framework?
   - Different Types of Framework.
   - How to Design a framework?
   - Data Driven Framework using Excel
   - Keywork Framework
   - Hybrid Framework
2. **TestNg Framework**
   - Test NG & TestNG features
   - How to integrate TestNG with Eclipse
   - Test NG Annotations
   - TestNG Reporting
3. **POM Framework**
   - Advantages of POM
   - How to implement
   - Using Page Object and Page Factory
4. **Reporting**
   - Using Report NG for generating reports through TestNG
   - Log4j -What is Log4j, how to use it, integration of Log4j with Eclipse
5. **Build Tools -Maven**
   - How to create a maven project in Eclipse
   - Maven Build Cycles.
   - How to compile and Run tests using Maven
6. **Continuous Build Integration tools- Jenkins**
   - What is Jenkins and how to use it
   - How to integrate Jenkins with Eclipse
7. **Selenium Grid**
   - Introduction & Architecture of Selenium Grid
   - Configuration of Selenium Grid(Hub And Node)
   - Writing a Sample Script using Selenium
   - Some Practice and Sample Programming using Grid

Hands on Experience on Industry Project, Mock Tests & Interview Tips