Syllabus for
Diploma in Software Testing

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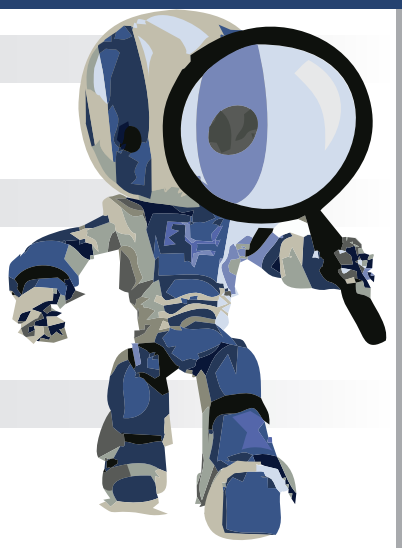

Course Duration For Software Testing Training Course :

- 10 Weeks (Weekday Batches) or 12 Weekends (Weekend batches)

Objective For Software Testing Training Course :

- To become a Professional Software Tester
- To enable the students to become Employable

Eligibility For Software Testing Training Course :

- Bsc, BCS, BCA, BE, B.Tech, MSc, MCS, MCA, M.Tech
- No Previous Programming Experience necessary

Course Overview For Manual Testing:

Manual Testing

Fundamental of Testing

- What is software testing ?
- Why is testing necessary ?
- Testing principles

Software Development Life Cycle

- Waterfall
- Spiral model
- Incremental Model
- Agile Model
- V shaped Model
- CMMI Model

Software Testing Life Cycle

- Requirements Analysis
- Test Planning
- Test Analysis
- Test Design
- Construction and verification
- Testing Cycles
- Final Testing and Implementation
- Post Implementation

Verification

- Inspections
- Walk through
- Peer reviews

Validation

- Unit Testing
- Integration Testing
- Functional Testing
- System Testing
- Acceptance Testing
- Alpha Testing and Beta Testing

Non-Functional testing

- Usability Testing
- Security Testing
- Configuration testing
- Compatibility Testing
- Recovery Testing
- Availability Testing
- Volume Testing
- Internationalization Testing
- Localization Testing

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Performance Testing

- Performance Testing Concepts
- Pre-requisites of Performance Testing
- Performance Test Types
- Load Testing and Stress Testing
- Common Performance problems
- Performance Testing process

Other Types of testing

- Mutation Testing
- Progressive Testing
- ReTesting
- Sanity and Smoke testing

Black box

- Boundary value analysis
- Error guessing
- Adhoc testing
- Risk Based testing
- Exploratory testing

White box

- Data coverage
- Code coverage

Test management

- Test Organization
- Test Strategy
- Test Plan
- Estimates
- Test progress monitoring and control

Test cases

- Objectives
- Structure of test case
- Sample test Case
- Risk analysis
- Contingency and mitigation

Defect Management

- Defect life cycle
- Meaning of different defect lifecycle status
- Format of defect report
- Severity and Priority

Testing Matrices

- RTM (Requirements Traceability Matrix)

Mobile Testing

- Overview of Mobile Devices
- Different types of Mobile Applications
- Mobile Applications Test Types
  - Mobile Testing Types
  - Testing for the devices
  - Testing for the connectivity
  - Testing applications on different platforms
  - Mobile specific testing
  - Testing different types of mobile applications
  - Common test types applied to mobile testing
  - Field testing

Web Application Testing

- Threats & Risks
- Testing Range
- Testing Strategies
- Test Planning
- Test Cases, Scripts, Suites & Scenarios
- Selecting Test Loads
- Load and Stress testing

ISTQB Preparation

- Sample Paper 1
- Sample Paper 2
- Practice Session

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Overview of Automation Testing

- Potential benefits and risks
- Introduction of a tool in an organization
- Tools used for Automation Testing

Overview of Unified Functional Testing (UFT) previously QTP

- Introduction
- Quick Test Window
- Views in QTP
- Capture and playback principle
- Recording modes
- Object Repository
- Standard Check points

Overview of Application Lifecycle Management (ALM) previously QC

- Opening QC
- Requirements tab
- Test Plan and Lab tab
- Test lab tab
- Defects tab
- Report and analysis of results

Automation Testing

Selenium 2.0

Selenium Introduction

- What is Selenium and Why Selenium?
- Selenium Components
  - Introduction of selenium Components
- Java in Selenium?

Core Java Overview

- Java programming concepts
  - Class, Object, Variables, Methods, Packages
  - Conditions and loops
  - Access and non access modifiers
- Advanced Java Programming
  - Interfaces, Inheritance
  - Collections, Exceptions

Selenium IDE and RC

- Introduction to Selenium IDE
- "Selenese" – Selenium Commands
- Developing Test Cases & Test Suites With Selenium-IDE
- Introduction to Selenium RC

Selenium WebDriver

- Selenium WebDriver Introduction
- WebDriver Vs RC
- Simple Testcase
  - Open and Close Browser
  - Cross Browser Testing – Firefox, IE, Chrome, HtmlUnitDriver, Headless Drivers
- UI elements
- Locators
  - Identifying WebElement using id, name, link text, class, xpath, css
  - Handling various WebElement using WebDriver

Testing Framework and Tools

- Introduction of Testing framework
- Types of frameworks – Data Driven, Keyword Driven, Hybrid
- TestNG introduction with eclipse
- TestNG Annotations and Data Providers
- Creating Test Suit with TestNG

Develop Data Driven Framework

- Developing data driven Framework
- Use external Data for Testing (Using xml files, Property file)
- Reading and understanding reports
- Screenshots for failed Test case

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Test Management with TestLink

Test Administration

- Test Planning and Customization of the Test Process
- Budgeting & Scheduing

Create the Test Plan

- Prerequisites to test planning
- Understand the Characteristics of the Software Being Developed
- Building and Writing the Test Plan
- Write the Test Plan
- Editing and Executing Test Cases
- Edit Test Cases
- Test Reports

Test Results

- Evaluating Test Plan Results
- Query Metrics
- Blocked and Failed Test Cases
- Failed Test Cases
- Test Report
- Metrics and Measurement: Types of Metrics, Project Metrics, Progress and Productivity Metrics

Mantis Bug Tracker

- Introduction of Mantis
- Creating User Accounts
  - Users, Roles and Permissions
- Managing project, Modules and Submodules
- Bug Life Cycle and Bug Tracking
- Logging , Resolving and Reporting a Bugs
- Reporting Bugs
- Bug / Defect Report writing
- Search functionality

Structured Query language (SQL)

- Introduction to RDBMS
- Introduction to SQL
- Users, Roles and Permissions
  - Table
  - Field
  - Row
  - Column
- Data Types in SQL
- Concept of Primary, Unique and Foreign Key
- Types of SQL statements
  - Data Definition Language (DDL)
  - Data Manipulation Language (DML)
  - Data Control Language (DCL)
  - Data Query Language (DQL)
- Functions in SQL
- SQL UNIQUE Constraint
- Null Values in SQL
- SQL Join Operator
- Types of Join operator in SQL
  - Inner Join
  - Outer Join
    - Left Outer Join or Left Join
    - Right Outer Join or Right Join
    - Full Outer Join or Full Join

Software Testing Project

- Case Study
- Understanding Business Requirement
- Creating Test Case
- Executing Test Cases
- Logging defects