Advanced Diploma in Software Testing

Programming Fundamental Programming in C

- Introduction to Programming
- Data Types, Operators
- C Instructions and Rules for Writing
- Control Structures
- Functions
- Pointers
- Array, Strings
- File I/O
- Structures and Union

Programming in C++

- OOP`s Concepts.
- References & const.
- Function Overloading.
- Inline functions.
- Namespace.
- Constructors, Destructors.
- Const member Functions.
- Static data member.
- Static member Functions.
- Operator Overloading.
- Conversion Functions.
- Exceptions Handling.
- Manipulators.
- Inheritance.
- Polymorphism.
- Virtual Functions.
- Abstract Class.
- RTTI.
- Templates.
- STL.

Database

- Database Connections
- Managing Database Connections
- Performing Queries

- Closing Connection
- Create Database & Table
- Drop Database & Table
- Insert Record
- Select Record
- Deleting Record
- Modifying Record
- WHERE Clause
- Using Operators
- Sorting Records
- Eliminating Duplicates
- Grouping Records, Having Clause
- Joining Tables
- Sub queries
- Using Table And Column Aliases

O/s and Networking

- Introduction
- Operating-System Structures
- Process Management
- Memory Management
- Storage Management
- Protection And Security
- Distributed Systems
- Special -Purpose Systems
- Network Basics
- Classification of Networking
- Network Topology
- TCP/IP Fundamentals

Flexible Web Design

    HTML 5

    CSS 3

Manual Testing

Introduction to Software Applications

- What is Software Application
- Types of Software Applications

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- Components of Software
- One Tier Architecture / Two Tier Architecture / Three Tier Architecture / Multi-Tier Architecture
- Application Domains
- Application Models

Software Development Life Cycle

- Phases of SDLC in detail
- Project Team Organization Structure
- Test Team Roles & Responsibilities
- Various Application Issues
- Waterfall Model
- Iterative Model
- Spiral Model
- Agile Model

Introduction to Software Testing

- What is Software Testing?
- 'V' model in detail
- Verification Techniques
- Reviews
- Inspections
- Walkthrough
- Validation
- Levels of Testing
- Unit Testing
- Integration Testing
- System Testing
- User Acceptance Testing

Software Testing Life Cycle

- Requirements Analysis
- Test Planning
- Test Design
- Test Execution
- Test Closure
- Economics of Testing

Testing Methodologies

Black Box Testing:

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- Advantages & Disadvantages

White Box Testing:
- Statement Coverage
- Decision Coverage

Test Design

Test Scenarios:
- Creating Test Scenarios from Use Case Diagram

Test Cases:
- Creation from Test Scenarios
- Test Case Template
- Test Case Review

Requirement Traceability Matrix:
- Test Case Management Tool
- Test Data

Test Data Creation Techniques:
- Boundary Value Analysis
- Equivalence Class Partitioning
- Error guessing
- Decision Table
- State Transition Testing

Negative Testing

Best Practices of Test Design

Test Execution
- Test Environment Setup
- Smoke / Sanity Testing
- Test Case Selection for Execution
- Running Test Cases
- Logging Defects
- Retesting and Regression
- Challenges in Test Execution
- Test Closure Report

Defect Management

- What is a Defect?
- Why do bugs occur?
- Defect Reporting

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- Defect Report Template
- Defect Severity & Levels
- Defect Priority & Levels
- Defect Life Cycle
- Defect Tracking Tools
- Defect Prevention

Non Functional Tests

- User Interface Testing
- Usability Testing
- Localization Testing
- Internationalization Testing
- Accessibility Testing
- Performance Testing
- Load Testing
- Endurance Testing
- Stress Testing
- Configuration Testing
- Compatibility Testing
- Installation Testing
- Security Testing

Quality

- Software Quality Factors
- Quality Management Systems (QMS)
- Quality Assurance (QA) & Quality Control (QC)
- Plan – Do – Check – Act
- Testing Metrics

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Automation Testing:

Test link

- Users, Roles and permission
- Managing project modules
- Creating test plan
- Test cases creation
- Test Suit creation
- Execution of test cases
- Reports and Charts

Bugzilla

- Life Cycle
- Users, Roles and permission
- Managing project modules
- Logging and resolving a bug
- Search functionality

Quick Test Professional (QTP)

- Overview of QTP
- Basic Concepts

Core Java

- Introduction
- Java programming Keywords
- Oops concepts
- Abstraction
- Polymorphism
- Encapsulation
- Inheritance
- Method overloading & Method overriding
- Literals
- Data types
- Local and global variables
- Classes & objects
- Access specifies
- Creating & Importing packages
- Exception Handling

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- Interface

Selenium IDE

- Overview of Automated testing
- Automation Process
- Scope of Automation
- Benefits of Automation
- Selection of Automation Tool
- Selenium as Automation Tool
- Why Selenium
- Selenium
- Components [IDE, RC, Web driver, Grid]
- Selenium IDE
- Installation
- Selenium IDE Menu
- Toolbar
- Editor
- Panes
- Recording a Selenium Test Case
- Running a Selenium Script
- Creating Test Suit
- Synchronization
- Assertions
- Verification commands
- Debugging
- Start
- Breakpoint
- Step
- Regular Expressions

Advanced Selenium Web Driver

- Introduction - Web Driver
- Why Web Driver
- End to End Automation Process with POC (Proof Of Concept)
- Integration - Eclipse + Web Driver
- Browser Handling for IE, Chrome, Firefox, HTMLUnit
- Object Identification for different web elements using
- ID

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- Name
- Class
- LinkText
- Tagname
- XPath
- FirePath & FireBug Add-ons installations
- Customize Object repository
- Checkpoint- Data, Image
- Synchronization - Implicit, Explicit
- Performance - Page load time, Internal page navigation
- Mouse / Keyboard events handling
- Handling of Alerts and Pop Ups
- Handle Window handles
- TestNG
- What is TestNG
- Installing TestNG
- TestNG Annotations
- Running a test using TestNG
- TestNG Report
- Skipping Tests
- Prioritizing Tests
- Parameterizing tests
- Introduction to Code management tools (Git hub) / Jenkins
- Execute selenium scripts on Cloud (ex -Browser stack)
- Frameworks
- Data driven Framework
- Page Object Model

Selenium client API
Selenium Grid

Advance Concept

- Cucumber

- Appium

Implementation Project Session

Certification

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- Applying for certification
- Preparation for ISTQB certification
- Certificate guidance

Aptitude Test Preparation

- Abstract reasoning
- Verbal reasoning test
- Numerical Reasoning Test
- Spatial reasoning
- Mechanical reasoning

C.V. and Interview

Course Duration: 3 Months

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- CV preparation
- Mock Interviews

10. Live Scenario

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