

DST - DIPLOMA IN SOFTWARE TESTING

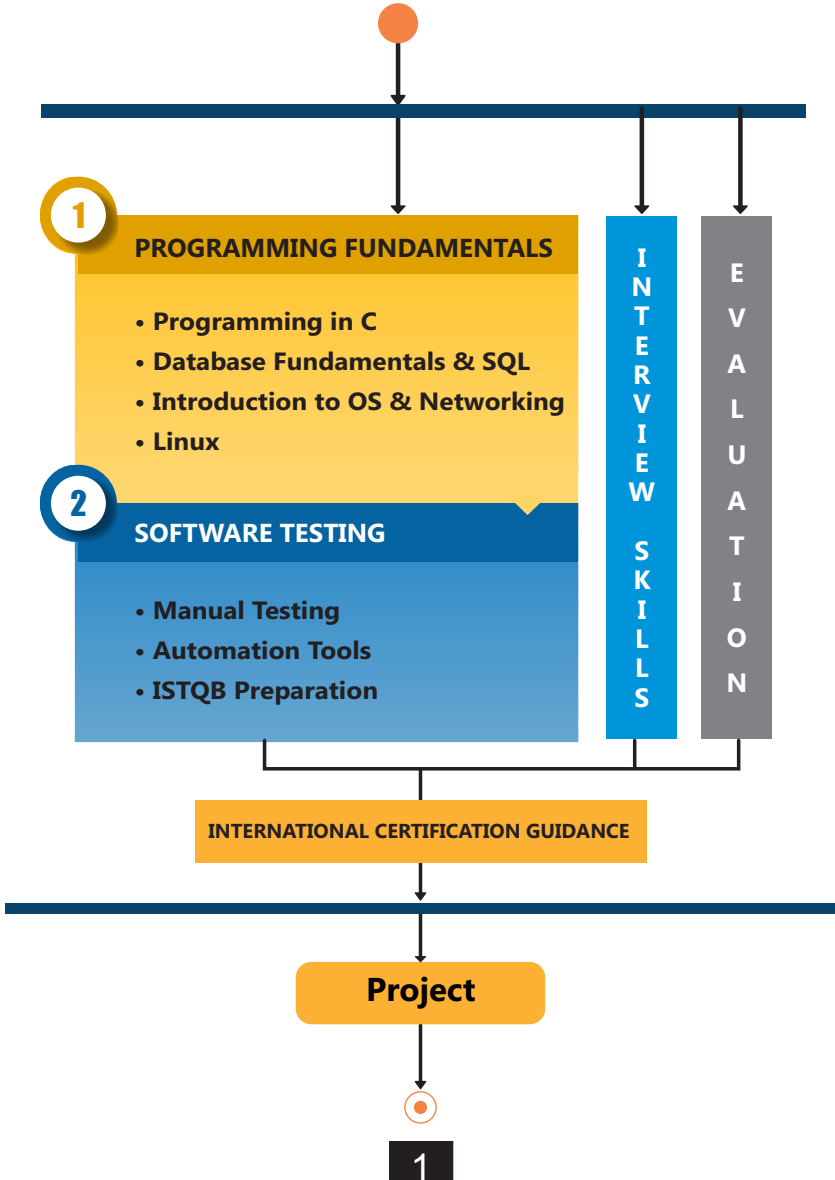
DURATION : 1.5 Months

ELIGIBILITY : BE | BTech | MCA | MCS | MCM
MSc | BCA | BCS | BSc etc

PRE-REQUISITES :

- Basic Knowledge of C Programming.

COURSE OVERVIEW



DST - COURSE CONTENTS

01- Programming Fundamentals

Programming in C

- Introduction to Programming
- Data Types, Operators
- Integrated Development Environment
- Control Structures
- Functions
- Pointers
- Arrays, Strings
- Structures and Unions
- Command Line arguments

Database Fundamentals & SQL

- Database fundamentals
- Normalization
- SQL / PL-SQL
- Stored Procedure, Function
- Triggers

Introduction to OS & Networking

- Overview of Operating System
- Concept of Process and Thread
- Memory Management
- Network Basics
- Classification of Networks
- Network Topologies
- Network Communication and Protocols
- TCP/IP fundamentals

Linux Fundamentals

- Introduction to Linux
- Basic Commands

02- Software Testing

Introduction to Software Applications

- What is Software Application
- Types of Software Applications
- 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

DST - COURSE CONTENTS

Software Testing Life Cycle

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

Testing Methodologies

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

Types Of 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

Skills for a Professional Tester

Automation Testing

A) Selenium

- Overview of Automated testing

DST - COURSE CONTENTS

- Automation Process
- Scope of Automation
- Benefits of Automation
- Selection of Automation Tool
- Selenium as Automation Tool
 - Why Selenium
 - Selenium
 - IDE, RC, Webdriver, Grid
- Selenium IDE
 - Installation
 - Selenium IDE Menu, Toolbar
 - Editor, Panes
- Recording a Selenium Test Case
- Running a Selenium Script
- Creating Test Suit
- Actions
- Synchronization
- Assertions
- Verification commands
- Debugging
 - Start, Breakpoint, Step
- Regular Expressions

B) TestLink

- Users, Roles and Permissions
- Test Project Management
- Managing project, Modules
- Requirements Management
- Test Plan Management
- Test Cases creation
- Test Suit creation
- Execution of Test Cases
- Reports and Charts

C) Bugzilla

- Users, Roles and Permissions
- Managing project, Modules
- Bug Life Cycle
- Logging a Bug
- Search functionality

D) Unified Functional Testing

- Basic Concepts & Overview (Slides Only)

E) Application Lifecycle Management

- Basic Concepts & Overview (Slides Only)

03 - Interview Skills

- Interview Techniques
- Frequently Asked Questions
- Group Discussion
- Resume Writing
- Mock Test Based on MNC Test Pattern

04- Evaluation

- Technical Assignments
- Technical Test
- Technical Interview

05 - Certification

- Preparation for International Certification - ISTQB
- Practice Mock Test

06 - Testing Project

- Manual and Automation testing.