



## **Innovations in Business Solutions**

### **COURSE OUTLINE - QA Software Testing (65 Hours)**

#### **Introduction and Fundamentals of Manual testing & ISTQB**

- **Software Engineering Concepts**
  - ❖ Introduction
  - ❖ Importance of software systems
  - ❖ Common problems in software development and Software Bugs
  - ❖ Testing Objectives
- **Software Development Life Cycle (Models)**
  - ❖ Waterfall Model
  - ❖ V Model
- **Static Testing**
  - ❖ Review
  - ❖ Inspections
  - ❖ Walkthroughs
- **Dynamic Testing**
  - ❖ Unit Testing
  - ❖ Integration Testing
  - ❖ System Testing
  - ❖ User Acceptance Testing
- **Software Testing Life Cycle and implementation**
- **Test Requirements Gathering and Analysis**
  - ❖ Requirements Reviews
  - ❖ Requirements Issues Identification
- **Test Strategy Preparation**
- **System Test Plan Preparation**
- **Test Case identification**
- **Black Box Test Design Techniques**
  - ❖ ECP
  - ❖ BVA
  - ❖ Error Guessing

- ❖ Decision Tables
- ❖ State Transition
- **Identify Scenario based on Test Cases**
- **What is Use case?**
- **Introduction of Test Case Design**
  - ❖ Test Case Design Templates
  - ❖ Types of Test Cases
  - ❖ Test Case Design Reviews
  - ❖ Requirement Traceability Matrix
- **Software Test Environments**
  - ❖ Introduction
  - ❖ Different Components in software environments
  - ❖ Difference between Test and Production environments
- **Test Execution Levels and Process**
- **Defect Management (Reporting and Tracking)**
- **Test Measurement Techniques and Metrics collection**
- **Test Closure Activity**
- **User Acceptance Testing**
- **Other commonly performed Testing Techniques**
  - ❖ Test Execution Life cycle Process
  - ❖ Different levels of Test Execution
  - ❖ Sanity/ Smoke testing(Level 0)
  - ❖ Test Batches or Test suite Preparation and Execution(Level 1)
  - ❖ Retesting(Level 2)
  - ❖ Regression Testing(Level 3)
  - ❖ Database Testing
  - ❖ What is defect?
  - ❖ Categories of defects
  - ❖ Defect life cycle process
  - ❖ Formal Defect report Template
  - ❖ Defect Metrics
  - ❖ Defect Removal Efficiency

- ❖ Importance of Test Metrics
  - ❖ Testing Data Used for Metric
  - ❖ Different types of Metrics
  - ❖ Test Execution Stop Criteria
  - ❖ Test Summary Report Preparation
  - ❖ Importance of User Acceptance Testing
  - ❖ Scope of UAT
  - ❖ Alpha Testing
  - ❖ Beta Testing
  - ❖ Gray Box Testing
  - ❖ Usability Testing
  - ❖ User Interface Testing
  - ❖ Compatibility Testing
  - ❖ Configuration Testing
  - ❖ Adhoc Testing
  - ❖ Exploratory Testing
  - ❖ Installation and Un-installation Testing
  - ❖ Recovery Testing
  - ❖ Security Testing
- **ISTQB Certification Support (only through presentation)**
    - ❖ Fundamental of testing
    - ❖ Testing Throughout the software life Cycle
    - ❖ Static Techniques
    - ❖ Testing Design Techniques
    - ❖ Test Management
    - ❖ Tool Support for Testing
- **HP ALM Quality Management Tool – Certification Support**
    - ❖ ALM concepts, architecture, and components
    - ❖ Management terms, concepts, and tools
    - ❖ Requirements implementation and management
    - ❖ Risk-based testing, steps, and factors
    - ❖ Test Plan build
    - ❖ Test Sets plan and execution
    - ❖ Defect tracking concepts, features, and best practices
    - ❖ Version Control use and configuration
    - ❖ Reports build and data management
    - ❖ Business Models module key concepts, terms, and operations
    - ❖ Project customization
- **Basic Overview of functional automated tools (only through presentation)**
    - ❖ QTP

- ❖ Load runner
- ❖ JIRA
  
- **Fundamentals of Backend Testing using SQL (Structured Query Language)**
  - ❖ Introduction to Database and Rational Database Management System
  - ❖ Simple and Complex SQL- queries
  - ❖ Database testing concepts
  - ❖ Type of Database testing
  - ❖ Importance of Database testing
  
- **Mobile Application Testing**
  
- **Introduction to Mobile Testing**
  - ❖ What is mobile application
  - ❖ Who is the end user of mobile application
  - ❖ Introduction of mobile platform
  - ❖ Types of testing in mobile Application
  - ❖ Mobile Eco System
  - ❖ Manual Testing Vs Automated testing
  
- **Mobile Application Test Plan and Design**
  - ❖ Test Plan and Strategy – how it is different from traditional testing
  - ❖ Test Case design for Mobile Application
  - ❖ Test Coverage determination
  - ❖ Scope
  - ❖ Usability User experience - Testing
  
- **Mobile Platform (Android)**
  - ❖ Android Mobile Application
  - ❖ Mobile Testing Life Cycle
  - ❖ Introduction of Android Studio
  - ❖ Debugging – DDMS/ ADB/ AVD
  - ❖ Understanding Android SDK API
  
- **Mobile Environment and Tools**
  - ❖ Types of mobile application
  - ❖ Testing in real device Vs simulator
  - ❖ Testing in cloud devices
  - ❖ Environment in terms of device OS Vs application
  - ❖ Mobile browser based testing
  - ❖ Performing few user case with either simulator or real device
  
- **Live Project support (Testing on SAP Project)**
- **Resume and Interview Preparation**