IT EDUCATION CENTRE

Software Testing

MANUAL TESTING SYLLABUS

1. INTRODUCTION OF SOFTWARE TESTING

- What is software testing?
- Why is testing necessary?
- Testing Principles
- Best Practices in Testing
- Skills for Testing
- Various Task Involved In Testing
- Difference between Verication & Validation
- Difference between QA &QC

2. DEVELOPMENT OF SOFTWARE APPLICATION

- Introduction of Software Process
- Phases in SDLC
- Waterfall Model
- Phases of Waterfall Model
- Advantages & Disadvantages
- Agile Model
- Scrum methodology
- Sprints in Scrum
- Scrum Roles
- Scrum Artifacts & Ceremonies
- V-shaped Model
- Steps in the V-shaped Model
- V-shaped Strengths & Weaknesses

3. LEVELS OF SOFTWARE TESTING

- Unit Testing
- Integration Testing
- Various Approaches Of Integration Testing
- System Testing
- Acceptance Testing

4. TESTING METHODOLOGIES

- Black Box Testing
- Advantages & Disadvantages
- White Box Testing
- Statement Coverage
- Decision Coverage

5. TYPES OF NON FUNCTIONAL TESTS

- Security Testing
- Recovery Testing
- Conguration testing
- Compatibility Testing
- Installation Testing
- Performance Testing
- Parallel Testing
- Volume Testing
- Internationalization Testing
- Localization Testing

6. TYPES OF FUNCTIONAL TESTS

- Other Types Of Testing

7. PROCESS OF TESTING

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

8. TEST DESIGN FOR FUNCTIONAL TESTING

- Introduction To Test Design
- Inputs For Test Design Activity
- Test scenarios
- Test Cases
- Test Case Management
- Best Practices Of Test Cases
- Test Data
- Black Box Test Technique
- Requirement Traceability Matrix(RTM)

9. TEST EXECUTION

- Test Execution Cycle
- Entry Criteria For Test Execution
- Smoke /Sanity Testing
- Test Execution
- Retesting And Regression Testing
- Ending The Test Execution Activity
- Test Closure Activities

10. DEFECT MANAGEMENT

- Defect /Bug
- Causes For Defect
- Defect Reporting
- Defect Attributes
- Severity And Priority
- Defect Life Cycle
- Advantages Of Defect Tracking

11. QUALITY AND PROCESS IMPROVEMENT

- Define What Is Quality
- Application Of Concept Of Quality To Software Application
- Quality Assurance
- Quality Control
- Testers Contribution To Quality Of Software Application
- Software Testing Metrics

12. GETTING EQUIPPED TO START

- Challenges In Testing
- Best Practices In Test
- Skills Required For A Tester
- Career Path Of A Tester
- How To Keep Updated

CORE JAVA

- Java Fundamentals
- Java Applications
- JVM Architecture
- How java is platform Independent
- Difference between JDK,JVM and JRE
- Data Types and Variables in Java
- Operators and Expressions
- Control Statements
- Loops in Java
- Arrays
- Command Line Arguments
- Java 8 and Java 9 Features
- OOP'S Concepts
- Overloading and Overriding
- Inheritance with Interface and Abstract Class
- Exception Handling
- Wrapper Classes
- Garbage Collections
- Inner Classes
- Packages
- String Class
- String Buffer and StringBuilder Class in Java
- Multithreading
- Collection and Generics
- File I/O
- Socket Programming
- AWT and Event Handling
- GUI Designing- Swing
- JDBC

SELENIUM

1. Introduction Of Selenium

- Explanation of selenium and its advantages
- Differences between selenium and QTP

2. Components Of Selenium

- Selenium IDE
- Selenium RC
- Selenium Grid
- Selenium WebDriver

3. Introduction Of Selenium IDE

- Main Features of Selenium IDE
- Installing Selenium IDE
- Test with Selenium IDE

4. Selenium WebDriver

- Introduction to selenium WebDriver
- Setting up eclipse
- Downloading and configuring WebDriver in eclipse

5. Selenium WebDriver Commands

- Get Commands
- Navigate Commands
- Element Visibility Commands
- Other Commands

6. Locators Of Selenium (WebDriver)

- Tools to identify elements and object
- Google Chrome Developer Tools
- Locating elements by ID, Name, LinkText, ClassName etc.
- XPath , Types in X-path

7. Advanced Features IN Selenium

- Handling Pop Up / Alert Window
- Drop Down Operation
- Scroll Down/up
- Right Click Operation

8. Concept of framework

- Introduction to framework
- Use of framework
- Different types of frameworks
- Different types of packages in framework

9. TestNG Framework

- Introduction to TestNG
- Setting up eclipse
- Downloading and configuring TestNG in WebDriver
- Functionality provided by TestNG
- Parallel Testing
- Report Generation

10. Data Driven Framework

- Data driven testing
- Apache poi library and installation
- Advantages of using Data Driven Framework

11. API Testing

Introduction to API architecture, REST API, SOAP API

- Understanding how REST API architecture works
- Understanding how SOAP API architecture works
- Understanding the HTTP methods GET, POST, PUT, DELETE, PATCH, OPTIONS, HEAD

Rest API - Postman Tool

- The postman Landscape
- Introduction to web application architecture
- Introduction to APIs
- Introduction to Web-Services
- Postman API Testing

Training Curriculum

- How does an API works
- What is API testing?
- What does API Testing involve
- Validation techniques used in API Testing

12. Database Testing

- Introduction to SQL Server
- Introduction to SQL
- DDL and DML Statements
- Working with Queries (DQL)
- Aggregate Functions
- Joins and Set Operations
- Implementation of Data integrity
- Working with Constraints

13. JIRA – Bug Tracking Tool

- JIRA – OVERVIEW
- JIRA – PROJECT
- JIRA – ISSUES
- JIRA – WORKFLOW
- JIRA – INSTALLATION
- JIRA – FREE TRIALS SETUP
- JIRA – LOGIN
- JIRA – DASHBOARD

AUTOMATION TESTING SYLLABUS

- Benefits Of Automation Testing
- What And When To Automate
- Introduction To Automation Tools
- Comparison with other tools like QTP/ UFT , RFT

CASE STUDY

INTERVIEW PREPARATION