TESTING COURSE SYLLABUS

Overview:

Testing is a critical phase of Software Development Life Cycle. Manual testing is the process in which the defects are identified, isolated, subjected for justification and ensure that the product is defect-free, in-order to produce quality product. However, it requires the necessary knowledge such as about different types of manual testing, software development life cycle. In this course you will learn everything that is required from a good manual tester.

Course Objectives

- To understand what is testing?
- To understand Software development model.
- To Understand Architectures of software development.
- To learn the features of Software development models.
- To learn major concepts of the testing methodologies.
- To know different approaches to Testing.
- To understand of the types of testing.
- To plan and create test plan ❖ To execute the test plan.
- To create and manage test cases and defect profiles.
- To build strategies to track testing processes in the bug tracking systems.
- To do document of the test report in the testing enclosure document.

Pre-requisite / Target Audience:

- Basic Knowledge of Computer.
- Internet Connection.
- Beginners who want to start their career in Software Testing field.
- Already a tester: You can refresh all your testing basics and techniques and gear up for Certifications in Software Testing
- Fresh Graduates: If you have passed out of college recently, and looking for a job in QA/Testing Industry, then this course will definitely help you build skills required for your first job
- Non-Programmers: If you are interested in IT, but hate programming or find it difficult, then Testing allows you focus less on programming and more on analysis skills.

- Non IT Professionals: If you are currently working in some other field, but interested in building a career in IT, then this course will help you step into the IT field

Module 1: Software Testing Introduction

In this module you learn about Importance of testing. Why Testers need industry, software program/application/product: meets the business and technical requirements that guided its design and development works as expected.

- What is testing?
- Importance of testing
- Roles and Responsibilities ❖ Principles of software testing ❖ What is Quality?
- How much testing is enough?
- Differences between Manual and Automation Testing.

Module 2: Software Development Life Cycle

In this module you learn about development procedure. SDLC stands for Software development life cycle. It is a process that describes how to develop, design and maintain the software project ensuring that all the functional & user requirement, goals and objective are met.

1. SDLC Phases

- Requirements Phase.
- Analysis Phase.
- Design phase.
- Coding Phase.
- Testing phase.
- Delivery and Maintenance Phase.

2. SDLC Models

- Waterfall Model.
- V Model
- Agile Model.
- Prototype Model.
- Spiral Model.

Module 3: Software Testing Methodologies

In this module you learn about deferent types of software testing. Software Testing Methodology is defined as strategies and testing types used to certify that the application under test meets client expectations.

- White Box Testing.
- Black Box Testing.
- Grey Box Testing.

Module 4: Test Case Design Techniques

In this module you learn design test cases in such a way that we get the maximum coverage using an optimal set of Test cases. Focus on highlighting the various Methods and Techniques in designing test cases for both Black Box Testing and White Box testing.

Static Techniques:

- Informal Reviews
- Walkthroughs
- Technical Reviews ❖ Inspection

Dynamic Techniques:

Structural Techniques

- Statement Coverage Testing
- Branch Coverage Testing
- Path Coverage Testing
- Conditional Coverage Testing
- Loop Coverage Testing

Black Box Techniques

- Boundary Value Analysis
- Equivalence Class Partition
- State Transition Technique
- Cause Effective Graph
- Decision Table
- Use Case Testing

Experienced Based Techniques:

- Error guessing

- Exploratory testing

Module 5: Levels of Testing

In this module you learn about levels of testing are frequently grouped by where they are added in the software development process, or by the level of specificity of the test.

1. **Functional Testing**
    - Unit Testing
    - Integration Testing
    - System Testing ❖ User Acceptance Testing.
    - Sanity/Smoke Testing.
    - Regression Test.
    - Retest.
2. **Non Functional Testing**
    - Performance Testing.
    - Memory Test
    - Scalability Testing.
    - Compatibility Testing.
    - Security Testing.
    - Cookies Testing.
    - Session Testing.
    - Recovery Testing.
    - Installation Testing.
    - Adhoc Testing.
    - Risk Based Testing.
    - I18N Testing.
    - L1ON Testing.
    - Compliance Testing.

Module 6: Software Testing Life Cycle

In this module learn about in detail description of Test Life Cycle, importance of Test Plan roles and responsibilities of Test Manager, Test Lead, Test Engineer,

1. Requirements Analysis/Design

- ❖ Understand the requirements
- ❖ Prepare Traceability Matrix

2. Test Planning

- ❖ Object.
- ❖ Scope of Testing.
- ❖ Schedule.
- ❖ Approach.
- ❖ Roles & Responsibilities.
- ❖ Assumptions.
- ❖ Risks & Mitigations.
- ❖ Entry & Exit Criteria.
- ❖ Test Automation.
- ❖ Deliverables.

3. Test Cases Design

- ❖ Write Test cases
- ❖ Review Test cases
- ❖ Test Cases Template
- ❖ Types of Test Cases
- ❖ Difference between Test Scenarios and Test Cases.

4. Test Environment setup

- ❖ Understand the SRS
- ❖ Hardware and software requirements
- ❖ Test Data

5. Test Execution

❖ Execute test cases ❖ Defect

Tracking and Reporting ▪

Types of Bugs.

- ▪ Identifying the Bugs.
- ▪ Bug/Defect Life Cycle.

- Reporting the Bugs.
- Severity and priority

6. Test Closure

- ❖ Criteria for test closure
- ❖ Test summary report

7. Test Metrics

- ❖ What is Test Measurements?
- ❖ Why Test Metrics?
- ❖ Metric Life Cycle.
- ❖ Types of Manual Test Metrics.

Module 7: QA & QC & Testing

In this module you learn about QA & QC and How to log bugs in Project management tool, how to give severity, priority to bugs.

- ❖ What is Quality Assurance?
- ❖ What is Quality Control?
- ❖ Differences of QA & QC & Testing

Test Management with TFS Tool (Learn & Implement) Defect

Tracking Tools (Learn & Implement)

- ❖ TFS

Real-time Project involving most of the above concepts with following will be provided

- Product Abstract Document
- Requirement Specification Document
- **Step-by-Step procedure for Testing the project from ground up**
- Complete Test plan, Test Cases, Traceability, Defect tracking report documents

At the end of the course participants will be able to -

1. At the end of this course, students will be able to understand the complete cycle of Manual Testing. 2. Students will be seeing the live project and will be able to start the career in the Software Quality Assurance filed