# ASHOK IT

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# Software Testing (Manual + Automation) Course Content

## Module - 1: Introduction

- Overview of Software Companies
- Overview of Software Projects
- Interview Process for Testers
- Types of Jobs in IT companies
- Types of Teams
- Teams Collaboration
- Role Chart of Test Engineer

## Module - 2: Software Development Life Cycle

- Overview of Software Engineering
- What is SDLC
- SDLC Phases
- Waterfall Model
- Advantages of Waterfall
- Dis-Advantages of Waterfall Model
- Spiral Model
- Introduction to Agile
- Agile Terminology
- Spring Overview
- Scrum
- Retrospective Meetings
- Backlog Grooming

## Module - 3: Software Testing

- Introduction to Software Testing
- Principles of Software Testing
- Software Testing Life Cycle
- Bug Life Cycle
- Types of Software Testing
- Levels of Testing
- Functional Testing
- Non-Functional Testing
- Unit Testing
- Integration Testing
- System Testing
- User Acceptance Testing (UAT)
- Alpha and Beta Testing
- Positive Testing
- Negative Testing
- End-To-End Testing
- Maintenance Testing
- Exploratory and Ad-hoc Testing
- Smoke and Sanity Testing
- What is Regression Testing & When Do We Do?
- What is Retesting & When Do We Do?
- Manual Testing Methods
- Test Deliverables

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- How To Write Test Strategy
- How To Write Test Plan
- How To Write Test Scenario
- Test Case Template With Explanation
- Bug Report Template
- Test Metrics
- Requirement Traceability Matrix – RTM
- Black Box Test Design Techniques
- Equivalence Partitioning Testing Technique
- Boundary Value Analysis Testing Technique
- Decision Table Test Design Technique
- State Transition Test Design Technique
- Localization Testing
- Bug Severity and Priority
- Defect Triage Process in Software Testing
- What is Testing in Production
- Test Estimation
- Test Report
- Test Strategy vs Test Plan
- Bug Tracking Tool Jira

## Module - 4: CORE JAVA

- Java Basics
- Features of Java
- Variables and Data Types
- What is JRE, JVM, and JDK

- Operators
- Control Flow Statements
- Arrays
- Object-oriented programming
- Object and Class
- Method
- Constructor
- Static & this keywords
- Access Modifiers
- Inheritance
- Polymorphism
- Super Key Word
- Abstraction
- Encapsulation
- Type casting
- Interfaces
- String class
- Packages
- Exception Handling
- Introduction
- Pre-Defined Exceptions
- Try-Catch-Finally
- Throws, throw
- User Defined Exception examples
- Collection Framework
- Introduction
- Collection interface
- List interface and its classes
- Set interface and its classes
- Map interface and its classes
- Queue interface and its classes

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## Module - 5: Automation Testing

- **Introduction**
- **What is automation testing?**
- **Advantages of Automation testing**
- **Types of Automation Tools**

## Module - 6: Selenium

- **What is Selenium?**
- **Who developed Selenium?**
- **Advantages of Selenium**
- **Difference between Selenium and UFT**
- **Selenium Components**
- **Introduction to WebDriver & Comparison with Selenium RC**
- **Architecture of Selenium Webdriver**
- **How to install Eclipse?**
- **Configure Selenium WebDriver with Eclipse**
- **Working with different browser drivers**
- **First Selenium WebDriver Script**
- **Working with WebDriver methods**
- **Difference Between FindElement & FindElements**
- **Locators in Selenium**
- **Dynamic Xpath**
- **Dynamic CSS**
- **Handle drop-downs and WebTable**
- **Handle Alerts & Popups**

- **Handle Frames/Iframes**
- **Handle Windows**
- **Mouse Hover event in Selenium**
- **Right Click**
- **Double Click**
- **Introduction of wait Methods**
- **Use of Wait methods in selenium**
- **Types of Wait Methods**
- **Difference between Thread.sleep,ImplicitWati&ExplicitWait**
- **Capturing screenshots**
- **Capturing screenshot on failure test cases**
- **Handling Ajax events**
- **Handling Auto Suggestions**
- **Different Selenium Exceptions**
- **File upload and download**
- **Robot Class, Mouse Events**
- **Handling JavaScript in Selenium**
- **Configure Apache POI with Eclipse**
- **Workbook,Sheet,Row,Cell ,methods**
- **HSSFWorkbook .HSSFSheet,HSSFRow ,HSSFCell methods**
- **How to Read data from Excel file(XLS or XLSX)**
- **How to Write data to excel file**
- **Listeners in Selenium**
- **Stale Element Reference Exception in Selenium**
- **Headless Browser Testing**
- **Introduction to Selenium Frameworks**
- **Data-Driven Framework**
- **Keyword driver Framework**

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- **Hybrid framework**
- **Page Object Model**
- **Selenium with TestNG**
- **TestNG Introduction**
- **Selenium with TestNG Sample Script**
- **TestNG Annotations**
- **Data-Driven Testing**
- **Running Tests in Parallel**
- **Multi-browser Testing**
- **Rerun Failed Tests**
- **Set Test Priority**
- **Dependency in TestNG**
- **Soft Assertion**
- **Timeouts in TestNG**
- **Extent Reports**
- **BUILD & CONTINUOUS INTEGRATION TOOLS**
- **How to Download and Install Maven Build Tool**
- **Creating Maven Selenium Project**
- **GIT Integration with Selenium**
- **How to download and Install Jenkins**
- **Execute TestNG Scripts in Jenkins**
- **Generating Reports after Test Execution**

- **Executing Maven Project in Jenkins**
- **Create and Execute Build in Jenkins**
- **Send Email report based on build status**
- **Selenium Continuous Integration with Jenkins Step by Step Guide**

## Module - 7: Real-time Tools

- **Maven**
- **Git Hub**
- **Jenkins**
- **POSTMAN**
- **JMETER**
- **TestNG**

## Module - 8: Interview Guide

- **Resume Preparation**
- **Interview Questions**
- **Mock Interviews**
- **Job Profile Creation**
- **Day To Day Activities Of Tester**
- **Roles & Responsibilities Of Tester**