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seed®
beyond the obvious

Course Name :	Diploma in Software Testing (DST)
Duration : Class room: 114 Hrs	Product Code : ST-ST-50001

This course offers an exhaustive coverage of Software Testing concepts and its use in Testing of real time projects. Provides hands on with testing tools like Selenium, Bugzilla, and Test Link. It also emphasizes on logic building concepts and introduction to Linux.

Take Away: After completion of this course you will be able to

- Perform effective testing of Software applications.
- Use various Testing tools like Selenium, Bugzilla etc.
- Build career in the field of Software Testing.

Unique Features

- Designed to enhance employability
- Develop strong foundation of Software Testing concepts & methodology
- Product design based on International ISD standards
- Latest versions of testing tools

Target Audience

- Graduates and Post-Graduates
- Job aspirants

Pre-requisites: What should you know before attending this course?

- Operate Computers
- Knowledge of Basic 'C' Programming would be an added advantage

Recommended Next Course

- Advanced Diploma in Software Testing & Technology (ADSTAT)

Reference Books	Courseware
• QTP Unplugged by Tarun Lalwani	• Manual Testing (SEED Official Curriculum)
• Lessons learned in Software Testing- Kem Kaner	• Test management and Automation tools (SEED Official Curriculum)
•	• Software testing interview preparation book
•	• Resume to HR interview preparation book
•	• Book for reference - Software Testing by Ron Patton

Training Methodology

This course uses the standard SEED training methodology (based on International ISD standard) of

- Visualization of concepts
- Applying learned concepts for testing of real time project
- 100% hands-on exercises/case studies

DST	
Module	**Duration (Hrs)**
Manual Testing Theory	30
Manual Testing Project	30
Test Link and Bugzilla	6
Functional Testing Tool	12
Test Automation using Selenium	12
Test Management Tool	6
Linux	6
Programming Techniques (Logic Building)	12
Total Duration	**114**

Manual Testing Theory

Manual testing theory sessions cover entire testing lifecycle activities along with detailed insight into software application components, development process and software quality attributes. This session also focuses on techniques, tools and skills needed by a student to be a good tester.

Objectives : You will learn

- Manual Testing concepts and techniques
- Testing types & Test methods
- Non functional testing types
- Test execution, defect management and test case management

Configuration and Tools Requirements

- Microsoft Office 2007

Course Contents

Introduction to software applications	Software application uses and advantages, application components and characteristics, Introduction to application domain, architecture, Types of applications
Introduction to Software development process	Software development lifecycle(SDLC) activities, phases and deliverables , Project team roles and responsibilities,
Need of testing	Challenges in development phases, Introduction to software defects, Need of Software Testing,
Software Testing methods and levels	V model, methods of testing – Verification and validation, static and dynamic testing, Levels of testing – Unit, Integration, System and use acceptance testing, approaches for integration testing, concept of stubs and drivers, Challenges and best practices in software testing
Test Planning	Software testing lifecycle (STLC) activities, phases and deliverables, testing team roles and responsibilities, Test plan creation, Test plan template, Introduction to BBT & WBT concepts
Test design process	Requirements study, creation of test scenarios and test cases, creation of test data, requirement traceability matrix (RTM), test case management, best practices of test case design, common mistakes, test case review
Test Design techniques	Black box testing techniques – Equivalence class partitioning, boundary value analysis, error guessing, state transition, Negative testing
Test Execution	Test execution entry criteria, smoke and sanity testing, test execution cycles, when to stop testing, Retesting & Regression Testing, test closure process, test summary report
Defect Management	Types of defect, defect report attributes, defect management system and process, defect life cycle
Non functional testing	UI and usability, Accessibility, localization, performance – load, stress, endurance and volume, security, installation, configuration and compatibility
Specialized testing	Introduction to White box testing, data base testing
Quality	Concept and definition of quality, Software Quality attributes, Quality management system (QMS), Quality Assurance (QA), Quality control (QC), Introduction to software testing metrics
Skills needed for software tester	Technical skills, behavioural skills, career path

Manual testing Project

After learning theory of manual testing, a detailed hands-on experience of project execution is provided through project module. It resembles the real life scenario of end to end test project execution.

Objectives : You will learn to

- Read SRS and understand application functionalities.
- Identify scenarios & develop Test cases based on the same.
- Execution of test cases & Defect reporting.
- Post mortem review.

Configuration and Tools Requirements

- Browser - Mozilla Firefox / IE 7 and above
- Project executable or access to project test website (VPC to be created)
- Microsoft Office 2007 and above

Course Contents

Requirements study Hands on	Study of SRS, Knowledge transition from Test manager, Query resolution session
Test planning Hands on	Understanding test plan, test case templates, team set up,
Test design Hands on	Creation of test scenarios, module level and integration test cases, test data, review and by test manager, creation of RTM
Test execution Hands on	Test environment set up, test execution, defect logging and defect review meetings, adhoc testing
Test closure Hands on	Creation and presentation of test summary report, experience sharing, Preparing for interview questions related to project

Test Link
TestLink is a popular open source test management tool. This session provides insight into test case management with TestLink.

Objectives : You will learn to

- Create a Test Project.
- Privileges associated with various users.
- Creation of Test plans & Builds.
- Writing Test cases in Test Link & Execution & analysing execution reports.

Configuration and Tools Requirements

- Mozilla Firefox browser
- Test Link (VPC)
- Microsoft Office 2007

Course Contents

Introduction to TestLink	TestLink features, supported platform, test project structure, user types
TestLink workflows	Creating a Test Project, Requirement specifications, Requirement to test case mapping, Create Test plan, Builds, Build management, Creating Test suites, Create Test cases, Adding test cases to test plan, Execution of Test cases,
Hands on	Hands on with Testlink Workflows of test project creation, test management and execution

Bugzilla
BugZilla is a popular open source defect management tool. This session provides insight into defect management with BugZilla.

Objectives : You will learn to

- Create an account in Bugzilla.
- File a bug.
- Searching defects.
- Defect life cycle, communication between development team & testing team.

Configuration and Tools Requirements

- Mozilla Firefox browser
- Bugzilla (VPC)
- Microsoft Office 2007

Course Contents

Introduction to Bugzilla	Bugzilla, Features, Platforms & requirements, GUI, types of users, Bug lifecyle in BugZilla
BugZilla workflows	Registration, Create Users and Preferences, Create product and Components, Creating and handling Flag, logging a new bug, bug assignment and closure, viewing bug reports
Hands on	Hands on with BugZilla Workflows of user creation, bug management and flag hadling

Test Automation using Selenium
This session provides insight into functional test automation and use of a very popular open source automation tool-Selenium.

Objectives : You will learn to
• Create scripts using Record and Playback feature of Selenium. • How selenium identifies an Object. • Apply Checkpoints. • Enhance your test scripts.

Configuration and Tools Requirements
• Mozilla Firefox browser • Selenium version 1.5 • Microsoft Office 2007

Course Contents	
Introduction to test automation	Need of automation, automation process, when and what to automate, Automation tools
Selenium Basics	History, Selenium Components, Supported platforms, Selenium IDE Features, GUI, Menu, Launch Application
Basic Record and playback	Recording steps, Perform Steps, Verify Steps, Stop Recording, Object identification
Script enhancements	Synchronization, Use of selenium commands - actions, asserts and accessors, Use of regular expressions, using loops, echo and alerts
Automation test management	Creation of test cases and test suit , debugging, view execution reports,
Introduction to advanced Selenium	Introduction to Selenium RC and Web Driver

Functional Testing Tool	

Objectives : You will learn
• Test Process • Record & playback • Parameterization, error handling

Configuration and Tools Requirements
• Functional tool • Core2duo processor with at least 2GB RAM • Microsoft Office 2007

Course Contents	
Introduction	Introduction To tool, addins, , GUI components
Tool Features	Record & Playback Mechanism, Recording Modes , Synchronization, Parameterization Methods, Data Driven Test, error handling, Record & Run settings,
Script enhancements	Checkpoints and its types, Actions, call to actions, Recovery scenario manager,
Object identification	Object Repository, object identification, Writing scripts without recording
Hands on	Using tool features, working on script enhancements

Test Management Tool	
Objectives : You will learn to	
- Create project, users. - Create Requirement Test plan Test Case writing using tool. - Execute Test cases & logging of defects.	
Configuration and Tools Requirements	
- Test management tool (VPC) - Core 2duo processor with at least 2GB RAM - Microsoft Office 2007	
Course Contents	
Introduction	Introduction to tool, Modules, Screen layout, types of users, connectivity with test automation tool
Requirement management	Creating project, Requirement creation and management, Mapping requirements to test cases, reports
Test case management	Creating test plan, test cases, test suite, test set, Test execution
Defect management	Defect logging, defect tracking and management, Analysis reports
Hands on	Hands on of key workflows like test case and defect management

Linux	
This session provides overview of Linux operating system and basic shell scripting commands that are useful to a software tester	
Objectives : You will learn to	
- Define an operating system. - List the types of operating system. - Use basic commands of Linux. - Create a file using vi editor.	
Configuration and Tools Requirements	
Linux Operating System	
Course Contents	
Introduction	Introduction to Linux, architecture overview, Introduction to Kernel and its role
Linux Shells	BASH shell, directory descriptions, Basic shell commands of - user management, system information, runtime management, system time, user inputs
File handling	file handling commands, File permissions
Vi Editor	Modes, vi commands, use of conditional statements

Programming Techniques (Logic Building)

This session provides insight into logic building and basics of programming, extremely useful especially for the students not having IT background. It enhances developing insight into application logic for effective testing.

Objectives : You will learn to

- Think logically.
- Write simple algorithms to perform task.
- Draw flowcharts.
- Get acquainted with basic programming terminology.

Configuration and Tools Requirements

- NA

Course Contents

Introduction to computing	Introduction to s/w and h/w, role of OS, programming environment
Programming Techniques	Modular programming, types of statements, pseudo-code, algorithm and flowchart, variables, constants, operators ,decision making using if, if-else, nested if-else, ternary operator, switch-case, iteration using loops, types of loops, for, while, do-while, nested loops, jump statements (break, continue, exit)