





Introduction

- Purpose of this Syllabus
- ★ The Certified Tester Foundation Level in Software Testing
- The Foundation Level Certificate Exam

Fundamentals of Testing

What is Testing?

- Typical Objectives of Testing
- ⇒ Testing and Debugging

Why is Testing Necessary?

- Testing's Contributions to Success
- Quality Assurance and Testing
- rrors, Defects, and Failures
- Defects, Root Causes and Effects

Seven Testing Principles

Test Process

- Test Process in Context
- Test Activities, Testware, Test Roles and Tasks
- Test Work Products
- Traceability between the Test Basis and Test Work Products
- Essential Skills and Good Practices in Testing

Testing Throughout the Software Development Lifecycle

- ⇒ Software Development Lifecycle Models
- Software Development and Software Testing
- Software Development Lifecycle Models in Context

Test Levels

- Component Testing
- Integration Testing
- System Testing
- Acceptance Testing

Test Types

- ⇒ Functional Testing
- Non-functional Testing
- White-box Testing
- ⇔ Change-related Testing
- Test Types and Test Levels

Maintenance Testing

- Triggers for Maintenance
- ⇒ Impact Analysis for Maintenance

Static Testing

Static Testing Basics

- Work Products that Can Be Examined by Static Testing
- ⇒ Benefits of Static Testing
- Differences between Static and Dynamic Testing

Feedback and Review Process

- Work Product Review Process
- Roles and responsibilities in a formal review
- ⇒ Review Types
- Applying Review Techniques
- ⇒ Success Factors for Reviews

Test Analysis and Design

Test Techniques Overview

Categories of Test Techniques and Their Characteristics

Black-box Test Techniques

- Equivalence Partitioning
- ⇒ Boundary Value Analysis
- Decision Table Testing
- State Transition Testing
- Use Case Testing

White-box Test Techniques

- Statement Testing and Coverage
- Decision Testing and Coverage
- The Value of Statement & Decision Testing





Experience-based Test Techniques

- ⇒ Error Guessing
- ⇒ Exploratory Testing
- ⇔ Checklist-based Testing
- Collaboration-based Test Approaches

Fundamentals of Testing

Test Organization

- ➡ Independent Testing
- Tasks of a Test Manager and Tester

Test Planning and Estimation

- Purpose and Content of a Test Plan
- Test Strategy and Test Approach
- Entry Criteria and Exit Criteria (Definition of Ready and Definition of Done)
- ➡ Test Execution Schedule
- ⇒ Factors Influencing the Test Effort
- ➡ Test Estimation Techniques

Test Monitoring, Test Control and Test Completion

- Metrics Used in Testing
- Purposes, Contents, and Audiences for Test Reports
- Configuration Management

Risk Management

- Definition of Risk
- Product and Project Risks
- Risk-based Testing and Product Quality
- Defect Management

Test Tools

Test Tool Considerations

- ⇒ Test Tool Classification
- Benefits and Risks of Test Automation
- Special Considerations for Test Execution and Test Management Tools

Effective Use of Tools

- Main Principles for Tool Selection
- Pilot Projects for Introducing a Tool into an Organization
- ⇒ Success Factors for Tools



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