

# ISQTB Certified Tester Foundation Level

## **1 Fundamentals of Testing**

### **1.1 What is Testing?**

1.1.1 Typical Objectives of Testing

1.1.2 Testing and Debugging

### **1.2 Why is Testing Necessary**

1.2.1 Testing's Contributions to Success

1.2.2 Quality Assurance and Testing

1.2.3 Errors, Defects, and Failures

1.2.4 Defects, Root Causes and Effects

### **1.3 Seven Testing Principles**

#### **1.4 Test Process**

1.4.1 Test Process in Context

1.4.2 Test Activities and Tasks

1.4.3 Test Work Products

1.4.4 Traceability between the Test Basis and Test Work Products

#### **1.5 The Psychology of Testing**

1.5.1 Human Psychology and Testing

1.5.2 Tester's and Developer's Mindsets

## **2 Testing Throughout the Software Development Lifecycle**

### **2.1 Software Development Lifecycle Models**

2.1.1 Software Development and Software Testing

2.1.2 Software Development Lifecycle Models in Context

### **2.2 Test Levels**

2.2.1 Component Testing

2.2.2 Integration Testing

2.2.3 System Testing

2.2.4 Acceptance Testing

### **2.3 Test Types**

2.3.1 Functional Testing

2.3.2 Non-functional Testing

2.3.3 White-box Testing

2.3.4 Change-related Testing

2.3.5 Test Types and Test Levels

### **2.4 Maintenance Testing**

2.4.1 Triggers for Maintenance

2.4.2 Impact Analysis for Maintenance

### **3 Static Testing**

#### **3.1 Static Testing Basics**

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

#### **3.2 Review Process**

- 3.2.1 Work Product Review Process
- 3.2.2 Roles and responsibilities in a formal review
- 3.2.3 Review Types
- 3.2.4 Applying Review Techniques
- 3.2.5 Success Factors for Reviews

### **4 Test Techniques**

#### **4.1 Categories of Test Techniques**

- 4.1.1 Choosing Test Techniques
- 4.1.2 Categories of Test Techniques and Their Characteristics

#### **4.2 Black-box Test Techniques**

- 4.2.1 Equivalence Partitioning
- 4.2.2 Boundary Value Analysis
- 4.2.3 Decision Table Testing
- 4.2.4 State Transition Testing
- 4.2.5 Use Case Testing

#### **4.3 White-box Test Techniques**

- 4.3.1 Statement Testing and Coverage
- 4.3.2 Decision Testing and Coverage
- 4.3.3 The Value of Statement and Decision Testing

#### **4.4 Experience-based Test Techniques**

- 4.4.1 Error Guessing
- 4.4.2 Exploratory Testing
- 4.4.3 Checklist-based Testing

### **5 Test Management**

#### **5.1 Test Organization**

- 5.1.1 Independent Testing
- 5.1.2 Tasks of a Test Manager and Tester

#### **5.2 Test Planning and Estimation**

- 5.2.1 Purpose and Content of a Test Plan
- 5.2.2 Test Strategy and Test Approach
- 5.2.3 Entry Criteria and Exit Criteria (Definition of Ready and Definition of Done)
- 5.2.4 Test Execution Schedule
- 5.2.5 Factors Influencing the Test Effort
- 5.2.6 Test Estimation Techniques

### 5.3 Test Monitoring and Control

5.3.1 Metrics Used in Testing

5.3.2 Purposes, Contents, and Audiences for Test Reports

### 5.4 Configuration Management

### 5.5 Risks and Testing

5.5.1 Definition of Risk

5.5.2 Product and Project Risks

5.5.3 Risk-based Testing and Product Quality

### 5.6 Defect Management

## **6 Tool Support for Testing**

### 6.1 Test Tool Considerations

6.1.1 Test Tool Classification

6.1.2 Benefits and Risks of Test Automation

6.1.3 Special Considerations for Test Execution and Test Management Tools

### 6.2 Effective Use of Tools

6.2.1 Main Principles for Tool Selection

6.2.2 Pilot Projects for Introducing a Tool into an Organization

6.2.3 Success Factors for Tools

## **7 Resources, Standards, ISTQB Documents, Articles, etc**