Manual Testing – Complete Content

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1. Introduction to Software Testing

- What is Software Testing?
- Why Testing is Required?
- Quality Assurance (QA) vs Quality Control (QC)
- Verification vs Validation
- Error vs Defect vs Bug vs Failure
- Software Quality Attributes

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2. SDLC (Software Development Life Cycle)

- Waterfall Model
- V-Model
- Agile Model
- Spiral Model
- Incremental Model
- Comparison of SDLC models
- Role of Tester in each model

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3. STLC (Software Testing Life Cycle)

- Requirement Analysis
- Test Planning
- Test Case Design
- Test Environment Setup
- Test Execution
- Defect Reporting & Tracking
- Test Closure Activities

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4. Levels of Testing

- Unit Testing
- Integration Testing
  - Top-Down
  - Bottom-Up
  - Big Bang
- System Testing

- Acceptance Testing (UAT)

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5. Types of Testing

Functional Testing

- Smoke Testing
- Sanity Testing
- Regression Testing
- Retesting
- End-to-End Testing

Non-Functional Testing

- Performance Testing (Basics)
- Load Testing
- Stress Testing
- Security Testing (Basics)
- Usability Testing
- Compatibility Testing

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6. Test Case Design Techniques

Black Box Testing

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

White Box Testing (Overview)

- Statement Coverage
- Branch Coverage
- Path Coverage

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7. Test Case & Test Scenario

- What is Test Case?
- What is Test Scenario?
- Difference between Test Case & Test Scenario

- Test Case Template
- Writing Effective Test Cases
- Positive & Negative Test Cases

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8. Requirement Analysis

- Understanding BRD, SRS, FRS
- Functional vs Non-Functional Requirements
- Requirement Traceability Matrix (RTM)
- Handling Requirement Changes

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9. Test Planning

- What is Test Plan?
- Test Plan Contents
- Test Strategy
- Test Estimation Techniques
- Risk Analysis
- Entry & Exit Criteria

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10. Test Execution

- Test Environment Setup
- Executing Test Cases
- Test Result Analysis
- Retesting Failed Test Cases
- Regression Cycle

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11. Defect Management

- What is a Defect?
- Defect Life Cycle
- Defect Status
- Defect Severity vs Priority
- Writing Effective Defect Reports
- Defect Report Template

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12. Bug Tracking Tools

- JIRA (Detailed)
- Bugzilla
- HP ALM / QC (Overview)
- Azure DevOps (Overview)

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13. Agile Testing

- Agile Manifesto
- Scrum Framework
- Roles (PO, SM, Dev, Tester)
- Sprint Planning
- Daily Stand-up
- Sprint Review
- Sprint Retrospective
- Tester role in Agile
- Agile vs Waterfall Testing

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14. Web Application Testing

- GUI Testing
- Usability Testing
- Cross-Browser Testing
- Client-Server Architecture
- Cookies, Sessions, Cache
- Web Security Basics

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15. Mobile Application Testing (Basics)

- Android vs iOS testing
- Mobile App Types
- Installation Testing
- Network Testing
- Battery & Performance basics

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16. Test Metrics & Reports

- Test Coverage

- Test Execution Report
- Defect Density
- Test Summary Report

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17. Test Closure Activities

- Test Closure Report
- Lessons Learned
- Test Artifacts
- Sign-off Process

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18. Real-Time Testing Scenarios

Example: Banking Application

- Login Module
- Fund Transfer
- Account Summary
- Transaction History

Example: E-Commerce Application

- User Registration
- Product Search
- Add to Cart
- Payment & Order Confirmation

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19. Best Practices in Manual Testing

- Understand requirements clearly
- Write reusable test cases
- Think from end-user perspective
- Focus on negative testing
- Proper documentation
- Communication with team

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20. Interview Preparation

Common Manual Testing Questions

- What is STLC?
- Smoke vs Sanity
- Severity vs Priority
- Test Case vs Test Scenario
- Regression vs Retesting
- What is RTM?
- Agile testing process

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21. Resume Preparation (Manual Tester)

- Key skills to mention
- Project explanation format
- Common resume mistakes

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22. Sample Documents

- Test Plan (Sample)
- Test Case Document
- Bug Report
- RTM