Certified Tester Foundation Level (CTFL) v 4.0

Duration: 3 days
Prerequisites: Basic Understanding of Software Testing

Day 1: Foundations and Software Lifecycle

Module 1: Fundamentals of Testing

- What is Testing?
  - Test Objectives
  - Difference between Testing and Debugging
- Why is Testing Necessary?
  - Contribution of Testing to Success
  - Role in Quality Assurance
  - Errors, Defects, Failures, and Root Causes
- Testing Principles
- Test Activities, Testware and Roles
  - Test Activities and Process
  - Testware and Traceability
  - Roles in Testing
- Essential Skills and Good Practices
  - Generic Skills Required for Testing
  - Whole Team Approach
  - Independence in Testing

Module 2: Testing Throughout the Software Development Lifecycle

- Testing in the SDLC Context
  - Software Development Lifecycle Models
  - DevOps and Testing
  - Shift Left Approach
  - Retrospectives and Process Improvement
- Test Levels and Types
  - Unit, Integration, System, Acceptance Testing
  - Functional vs Non-functional Testing
  - Confirmation Testing and Regression Testing
- Maintenance Testing

Module 3: Static Testing

- Static Testing Basics
  - Types of Work Products
  - Value of Static Testing
  - Static vs Dynamic Testing
- Feedback and Review Process
  - Stakeholder Feedback
  - Review Process Activities
  - Roles and Responsibilities in Reviews

    - Review Types
    - Success Factors for Reviews

Day 2: Test Design Techniques

Module 4: Test Analysis and Design

- Test Techniques Overview
    - Classification of Test Techniques
- Black-Box Test Techniques
    - Equivalence Partitioning
    - Boundary Value Analysis
    - Decision Table Testing
    - State Transition Testing
- White-Box Test Techniques
    - Statement Testing and Coverage
    - Branch Testing and Coverage
    - Value of White-box Testing
- Experience-based Test Techniques
    - Error Guessing
    - Exploratory Testing
    - Checklist-Based Testing
- Collaboration-based Test Approaches
    - Collaborative User Story Writing
    - Acceptance Criteria
    - Acceptance Test-Driven Development (ATDD)

Day 3: Test Management and Tools

Module 5: Managing the Test Activities

- Test Planning
    - Purpose and Content of a Test Plan
    - Tester's Role in Iteration and Release Planning
    - Entry and Exit Criteria
    - Estimation Techniques
    - Test Case Prioritization
    - Test Pyramid
    - Testing Quadrants

- Risk Management

    - Risk Attributes
    - Project and Product Risks
    - Product Risk Analysis and Control

- Test Monitoring, Control and Completion

    - Metrics in Testing

        - Test Reports: Purpose, Content, Audience
        - Communicating Test Status
- Configuration Management
- Defect Management

Module 6: Test Tools

- Tool Support for Testing
- Benefits and Risks of Test Automation

Wrap-up & Q/A

- Recap of Key Concepts
- Sample Exam Questions
- Final Clarifications