

654 – Software Testing

Objective :

To provide a detailed study of testing software and automated tools.

Course Contents:

Testing fundamentals: Software testing – Levels of software testing – Test activities – Testing Life Cycle – Test Organization – White Box testing – Basis Path Testing – Control Structure testing – Black Box Testing.

Functional testing: Equivalence Class Partitioning - Boundary Value Analysis – Cause-effect Graphing - Special cases. Performance Testing – Stress testing – Configuration Testing – Security Testing – Recovery Testing – Integration Testing – Regression Testing – Acceptance Testing.

Object oriented testing methods: Testing Methods at Class level – Interclass test case design- Testing for Specific Environment, architecture, and application - Testing patterns.

Testing process: Comparison of different techniques- Test Plan – Test case Design Procedure Specification – Test Case Execution and Analysis - Test Documentation - Reporting test results - Final test reporting, Test Driven Development & Refactoring

Testing Web Application: Testing concepts for web apps – Content Testing – User Interface Testing – Component Level Testing – Navigation Testing – Configuration Testing – Security Testing – Performance Testing.

Testing Tools: Need for automated testing tools - Selection of testing tool – Tools used at various phases.

Main Reading :

1. Srinivasan Desikan, Gopalswamy Ramesh , “Software Testing : Principles and Practices”, Pearson Education, 2006
2. Software Testing in the Real World, by E. Kit (1995)
3. The Web Testing Handbook, by S. Splaine and S. Jaskiel
4. Testing Applications on the Web, by H. Nguyen, R. Johnson, and M. Hackett
5. Software Testing and Continuous Quality Improvement, by W. Lewis, et al
6. How to Break Software Security, by J. Whittaker, et al
7. Web resources: <http://www.softwareqatest.com>