

SREENIVASA INSTITUTE of TECHNOLOGY and MANAGEMENT STUDIES

III MCA - I Semester

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SOFTWARE TESTING

Course Objectives:

- To explore Different types of Bugs
- To Learn about Path testing using Flow Graphs
- To Learn basics of Data flow testing
- To understand applications of Node Reduction Algorithm
- To Acquire Basic Knowledge of Testing Tools like Win Runner and Load Runner

Syllabus:

UNIT I : Introduction & The Taxonomy of Bugs

Purpose of testing – Some Dichotomies – A Model for testing – The Consequences of bugs – A Taxonomy of bugs.

UNIT II : Flow graphs and Path testing

Path Testing Basics – Predicates, Path Predicates and Achievable Paths - Path sensitizing- Path instrumentation - Application of path testing.

UNIT III : Dataflow Testing & Paths, Path products and Regular expressions

Dataflow Testing Basics – Data flow testing strategies.

Path products & path expression – A Reduction Procedure- Applications - Regular Expressions & Flow Anomaly Detection.

UNIT IV : Logic Based Testing & State, State Graphs and Transition testing

Motivational Overview - Decision tables - Path expressions again - KV Charts – Specifications.

State Graphs - Good State Graphs and bad - State Testing.

UNIT V : Graph Matrices and its Application & Testing Tools

Motivational overview – The Matrix of a Graph – Relations – The Powers of a Matrix - Node Reduction Algorithm - Building Tools.

Manual testing and its Limitations - Need for Automated Testing Tools - Taxonomy of Testing Tools, Win Runner – Load Runner.

Course Outcomes:

- Know the Basics of Testing.
- Learn about Path Testing and Data Flow Testing
- Understand various applications of Node Reduction Algorithm
- Know the basic Testing tools like Win Runner and Load Runner

TEXT BOOKS :

1. Software Testing Techniques, 2/e, 1990, Baris Beizer, Dreamtech, New Delhi, India.
2. Software Testing Tools, 2/e, 2004, Dr.K.V.K.K.Prasad , Dreamtech, New Delhi, India.

REFERENCE BOOKS :

1. The craft of software testing, 2/e, 1995, Brian Marick, Pearson Education, New Delhi, India.
2. Software Testing Techniques, 1/e, 2008 , SPD, New Delhi, India.
3. Software Testing in the Real World, 1/e, 2008, Edward Kit, Pearson Education, New Delhi, India.
4. Effective methods of Software Testing, 3/e, 2000, Perry, John Wiley, India.
5. Art of Software Testing, 3/e, 2011, Meyers, John Wiley, India.

