

Software Testing
Software Testing
[CORE COURSE]

Semester :VI	Credits: 3	Subject Code: BC62202	Lectures: 48
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Course Outcomes:

At the end of this course, the learner will be able to:

- Introduce to testing tools.
- Gain knowledge in Software testing techniques.
- Design test case plan for testing software.
- Acquire knowledge of basic QA.

Unit 1: Introduction

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- Introduction, Nature of errors, Testing Objectives
- Testing principles, Testing fundamentals,
- Software reviews, Formal Technical reviews, Inspection and walkthrough
- Testing Life Cycle

Unit 2: Software Testing methodologies

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- White Box Testing and types of white box testing
- Test Case Design
- Black Box Testing and types of black box testing
- Gray Box Testing Overall System structure
- Software Testing Process
- Unit Testing
- Integration- Top-down ,Bottom up, Big Bang Approach, Sandwich Approach
- System Testing
- Acceptance Testing (alpha, Beta testing)
- Validation and Verification
- Performance Testing
- Regression Testing
- Smoke Testing
- Load Testing



Unit 3: Software metrics

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- Introduction
- Basic Metrics –size-oriented metric, Function –oriented metric

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- Cyclometric Complexity Metrics Examples on Cyclometric Complexity

Unit 4: Testing Tools& Software Quality Assurance (Introduction)

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- Testing for Specialized Environment
 - Testing GUI's
 - Testing of Client/Server Architectures
 - Testing Documentation and Help Facilities
 - Testing for Real-Time Systems
- Load runner, Rational Robot, Selenium, Devops, Practical implementation of testing tools
- Quality Concepts, Quality Movement, Background Issues, SQA activities
 - Formal approaches to SQA
 - Statistical Quality Assurance
- Software Reliability
- The ISO 9000 Quality Standards
 - SQA Plan
 - Six sigma
- Informal Reviews

#12 hours for Library work, assignments, practical or field work

Recommended Text Books:

- Roger S Pressman, *Software Engineering –A Practitioner's approach*, Tata McGraw-Hill publication 7 edition.
- William E Perry, *Effective Methods of Software Testing*, Wiley Publishing Inc

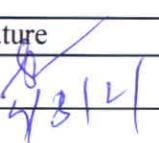
Reference Books:

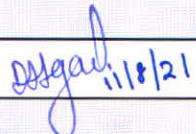
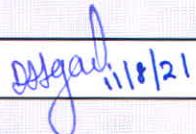
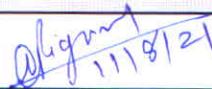
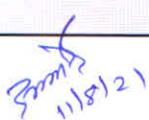
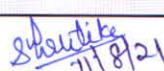
- Dale H. Besterfield, *Total Quality Management*, Prentice Hall, 2003
- Roger S Pressman, *Software Engineering –A Practitioner's approach*, Tata McGraw-Hill publication 7 edition.
- Srinivasan Desikan, Gopalswamy, Ramesh, *Software Testing Principles and Practices*, Pearson Publications
- William E Perry, *Effective Methods of Software Testing*, Wiley Publishing Inc..

Websites:

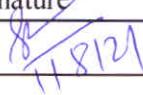
- www.w3cschool.com



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Subject Expert (Outside SPPU)	Dr. Sagar Jambhorkar	 11/8/21
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