

Computer Science Paper-II
Software Testing
[Discipline Specific Course]

Semester: VI	Credits: 2	Subject Code: BS62202	Lectures: 36
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Course Outcomes:

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

- classify various software testing methods and strategies
- interpret a variety of software metrics, and identify defects, and managing those defects for improvement in quality for a given software
- design test cases and test plans, review reports of testing for qualitative software
- compare and contrast the latest testing methods used in the software industries

Unit 1: Introduction to Software Testing

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- Basics of Software Testing – faults, errors and failures, Testing objectives
- Principles of Testing
 - Testing and debugging
 - Testing metrics and measurement
- Verification and validation
 - Testing life cycle

Unit 2: Software Testing Strategies and Techniques

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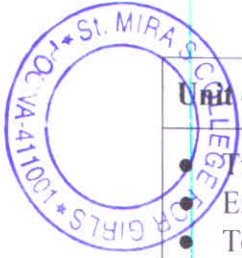
- Testability - Characteristics lead to testable software
- Test characteristics
- Test Case Design for Desktop, Mobile, Web application using Excel
- White Box Testing - Basis path testing, Control Structure Testing
- Black Box Testing- Boundary Value Analysis, Equivalence partitioning
- Differences between BBT & WBT

Unit 3: Levels of Testing

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- A Strategic Approach to Software Testing
- Test strategies for conventional Software
- Unit testing
- Integration testing – Top-Down, Bottom-up integration
- System Testing – Acceptance, performance, regression, Load/Stress testing, security testing, Internationalization testing
- Alpha, Beta Testing
- Usability and accessibility testing
- Configuration, compatibility testing

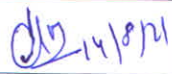


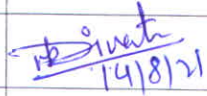
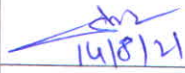
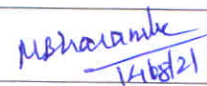
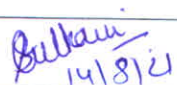
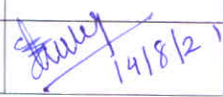
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Unit 4: Testing Web Applications	6
<ul style="list-style-type: none"> • Two modes Dimension of Quality, • Error within a WebApp Environment • Testing Strategy for WebApp • Test Planning • The Testing Process –an overview 	

Unit 5: Agile Testing	5
<ul style="list-style-type: none"> • The Testing Process –an overview Agile Testing, • Difference between Traditional and Agile testing, • Agile principles and values, • Agile Testing Quadrants, • Automated Tests 	

Recommended Reference Books:
<ul style="list-style-type: none"> • Lisa Crispin and Janet Gregory(2009). <i>Agile Testing: A Practical Guide for Testers and Agile Teams</i>. Addison-Wesley Professional • Pressman, R. S. (2005). <i>Software engineering: a practitioner's approach</i>. Palgrave macmillan. • Rex Black(2011). <i>Managing the Testing Process: Practical Tools and Techniques for Managing Hardware and Software Testing</i>. Microsoft Press. • Srinivasan Desikan, Gopaldaswamy Ramesh(2006). <i>Software Testing Principles and Practices</i>. Pearson. • William E. Perry(2000). <i>Effective Methods for Software Testing</i>. Wiley Publishing

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