

COURSE TITLE: SOFTWARE TESTING LAB**COURSE OBJECTIVES:**

- Identify the need of software testing in current industry scenario, techniques and tools in area of software testing
- Demonstrate the ability to apply multiple methods to check reliability of a software system and to identify and apply redundancy and fault tolerance for a medium-sized application,
- Identify the Fault in program logic that fails to validate data and values properly before they are used
- Discuss the distinctions between validation and defect testing,
- Understand types of testing and essential characteristics of tool used for test automation

LEARNING OUTCOMES:

The students will be able to:

- Understand the concept and need of software testing
- Understand the need and usage of software tools required for manual and automated testing

Code	Course	Teaching Period / Week		Credit			Duration of Theory Exam (in Hrs.)
		L	Pr./Tu	Int.	Ext.	Total	
MCSL106	Software Testing Lab	-	2	1	1	2	1

Module No	Objective	Content	Evaluation
1	To understand the concepts of software testing	Introduction to Software Testing Functional and non-functional Testing, Writing Test cases, Testing Framework, Test Documents, Static Testing: Data Flow Analysis, Control Flow Analysis, Cyclomatic Complexity, White Box Testing: Statement Coverage, Branch Coverage, Path Coverage, State Transition, Black Box Testing: Equivalence Class Partitioning, Boundary Value Analysis, Cause Effect Graphing and Decision table technique, Use case testing	Students will be evaluated using Lab Manual. (Marks 5)
2	To perform manual testing	Software Testing Strategies and Manual Testing Characteristics, Integration Testing, Functional Testing, Object-oriented Testing, Alpha and Beta Testing, overview of testing tools, Manual Testing on existing Project	Class Test (Marks 10)
3	To perform automation testing using QTP	Automation Testing using QTP QTP Introduction, recording and replaying test cases, QTP Synchronization Point, QTP Parameterization, QTP Checkpoints (Windows and Web application), Recording modes in QTP	
4	To perform automation	Automation Testing using Bugzilla Bugzilla Introduction and usage, Creating Reporting a new bug, Viewing Bug reports, Modifying Bug reports,	Practical Exam will

	testing using Bugzilla	Performance Testing Concepts: Load Testing, Stress Testing	be conducted. (Marks 10)
Note: Manual Testing (MT), Automation Testing (AT)			

EVALUATION:

Evaluation	Details	Marks
(* please give details of assessment in terms of Unit test/ Project/ quiz /or other assignments and marks allotted for it)		
Internal	<ul style="list-style-type: none"> • Lab Manuals • Class Test • Practical Test 	25 Marks
External	Final Examinations (Practical)	25 Marks
Total marks		50 Marks

TEXT BOOKS:

- 1) Nastase, R. (2017). Computer Networking: Beginner's Guide for Mastering Computer Networking and the OSI Model. USA: Independently Published.
- 2) Sebesta, R. W. (1989). Concepts of programming languages. USA: Pearson Education.
- 3) Sestoft, P. (2017). Programming Language Concepts. USA: Springer International Publisher.

REFERENCE BOOKS:

- 1) Shende, *Testing in 30 + open source tools*, (2016) SPD
 - 2) Dandreas Spillner, *Software testing foundations*, (2014) SPD
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