SOFTWARE TESTING METHODOLOGIES

(Program Elective-V)

CourseCode	19IT4702D	Year	IV	Semester	I
Course Category	PE	**Branch**	IT	**Course Type**	Theory
Credits	3	**L-T-P**	3-0-0	**Prerequisites**	Software engineering
Continuous Internal Evaluation:	30	**Semester End Evaluation:**	70	**Total Marks:**	100

	Course Outcomes	**Blooms Taxonomy Level**
	Upon successful completion of the course, the student will be able to	
CO1	Understand the basic concepts of software testing	L2
CO2	Apply Dynamic Testing Techniques and validation activities	L3
CO3	Apply software test management practices	L3
CO4	Gain knowledge on automation testing	L2
CO5	Analyze various testing strategies for a given application (Assignment)	L4

Contribution of Course Outcomes towards achievement of Program Outcomes & Strength of correlations (H:High, M:Medium, L:Low)

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3												3	
CO2	3												3	
CO3	3												3	
CO4	3												3	
CO5		3							3	3				3

Syllabus		
Unit No	**Contents**	**Mapped CO**
I	**Introduction to Software Testing:** Introduction, evolution of software testing, software testing-Myths and Facts, goals of software testing, Psychology for software testing, Software Testing Definitions, Model of software testing, Effective Software Testing Vs Exhaustive Software Testing, Software Testing Terminology, Software Testing Life Cycle(STLC), Testing methodology.	**CO1**
II	**Dynamic testing: Black-Box Testing Techniques:** Boundary value analysis, equivalence class testing. **White-box testing**: Need of White Box Testing, Logic Coverage Criteria, Basis Path Testing, Loop Testing, Data Flow Testing.	**CO1, CO2, CO5**
III	**Validation activities**: Unit validation testing, integration Testing, function Testing, system Testing, acceptance testing. **Regression Testing:** Progressive Vs Regression Testing, objectives, types, defining regression test problem, regression testing techniques.	**CO1, CO2**
IV	**Test management**: Test organization, structure of testing group, test planning, Detailed test design and test specification. **Software Metrics:** Need of Software Measurement, Definition of Software Metrics, Classification of Software Metrics, Entities to be measured, Size Metrics.	**CO1 CO3**
V	**Automation and Testing Tools:** Need for automation, categorization of testing tools, selection of testing tools, Cost incurred, Guidelines for automated testing, overview of some commercial testing tools.	**CO4**

Learning Resources
Text Books
1.Naresh Chauhan, Software Testing: Principles and Practices, 1/e, Oxford University Press, 2010
References
1. WilliamE. Perry,EffectiveMethods forSoftwareTesting,3/e,Wiley, 2006. 2. Paul C. Jorgensen, Software Testing: A Craftsman's Approach, 3/e, Auerbach publication, 2015.
https://www.coursera.org/courses?query=software%20testing https://nptel.ac.in/courses/106101163