

SWARNANDHRA
COLLEGE OF ENGINEERING AND TECHNOLOGY
(AUTONOMOUS)

SEETHARAMPURAM, NARSAPUR-534280, WG- DT, AP
DEPARTMENT OF MASTER OF COMPUTER APPLICATIONS

TEACHING PLAN

Course Code	Course Title	Year/Sem	Branch	Contact Hrs/Week	Academic Year	Commencement of Class work
20MC4TE4	Software Testing Methodologies	II/IV	MCA	6	2023-2024	01.01.2023

COURSE OUTCOMES (CO): Students are able to

1. Identify and understand various software testing problems, apply software testing. [K4]
2. Design and conduct a software test process for a software project. [K3]
3. Analyze the needs of software test automation. [K3]
4. Use various communication methods and skills to communicate with their teammates to conduct their practice-oriented software testing projects. [K2]
5. Write test cases for given software to test it before delivery to the customer and write test scripts for both desktop and web based applications. [K4]

UNIT	Out Comes / Bloom's Level	Topics No.	Topics/Activity	Text Book / Reference	Contact Hour	Delivery Method
I	CO1: Identify and understand various software testing problems, apply software testing [K4]	Unit - I				
		1.1	Software Testing: Introduction	T1	1	Chalk & Board, PPT
		1.2	Evolution	T1	1	
		1.3	Myths and Facts	T1	1	
		1.4	Goals	T1	1	
		1.5	Psychology	T1	1	
		1.6	Definition	T1	1	
		1.7	Model for Testing	T1	1	
		1.8	Effective Vs Exhaustive software Testing	T1	1	
		1.9	Software Testing Terminology	T1	1	
		1.10	Software Testing Life Cycle	T1	1	

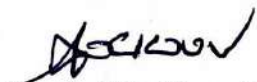
		1.11	Software Testing Methodology	T1	1		
					Total	11	
II	CO2: Design and conduct a software test process for a software project [K3]	Unit - II					
		2.1	Verification and Validation Activities	T1	1	Chalk Board & Talk, PPT, Demonstratio n	
		2.2	Verification	T1	1		
		2.3	Verification of Requirements	T1	1		
		2.4	High level and low level designs	T1	1		
		2.5	How to verify code	T1	1		
		2.6	Validation	T1	1		
		2.7	Boundary Value Analysis	T1	1		
		2.8	Equivalence Class Testing	T1	1		
		2.9	State Table based testing	T1	1		
		2.10	Decision table based testing	T1	1		
		2.11	Cause-Effect Graphing based testing	T1	1		
		2.12	Error guessing	T1	1		
					Total	12	
III	CO3: Analyze the needs of software test automation [K3]	Unit - III					
		3.1	White-Box Testing: need	T1	1	Chalk & Board, Talk, PPT, Demonstratio n	
		3.2	Logic Coverage Criteria	T1	1		
		3.3	Basic path testing	T1	1		
		3.4	Graph Matrices	T1	1		
		3.5	Loop Testing	T1	1		
		3.6	Data Flow Testing	T1	1		
		3.7	Mutation Testing	T1	1		
		Mid I Exam					
		3.8	Inspections	T1	1		
		3.9	Structured Walkthroughs	T1	1		
		3.10	Technical Reviews	T1	1		
		3.11	Unit Testing	T1	1		
		3.12	Integration Testing	T1	1		
		3.13	Function Testing	T1	1		
		3.14	System Testing	T1	1		
		3.15	Acceptance Testing				
					Total	15	
IV	CO4: Use various communicat ion methods and skills to communicat e with their	Unit - IV					
		4.1	Regression Testing: Progressives Vs. Regression testing	T1	1	Chalk & Board, Talk, PPT Tutorial, Active Learning & Case Study	
		4.2	Regression Testability	T1	1		
		4.3	Objectives of Regression Testing	T1	1		
		4.4	When Regression Testing is done	T1	1		
		4.5	Regression Testing types	T1	1		

teammates to conduct their practice-oriented software testing projects [K2]	4.6	Regression Testing Techniques	T1	1
	4.7	Efficient Test Suite Management: Test case design	T1	1
	4.8	Test Case Suit	T1	1
	4.9	Minimizing the test suite and its benefits	T1	1
	4.10	Test Suite Prioritization	T1	1
	4.11	Types of Test case Prioritization	T1	1
	4.12	Prioritization Techniques	T1	1
	4.13	Measuring effectiveness test Suite	T1	1
	4.15	Software Quality Management: Metrics	T1	1
	4.16	Debugging Process and Techniques	T1	1
	4.17	Correcting Bugs	T1	1
	4.18	Basics of testing management tools	T1	1
	4.19	Test Link and Jira	T1	1
Total			19	

V	CO5: Write test cases for given software to test it before delivery to the customer and write test scripts for both desktop and web based applications [K4]	Unit - V				Chalk & Board, Tall PPT, Tutorial
		5.1	Automation and Testing Tools: need for automation	T1	1	
		5.2	Categorization of testing tools	T1	1	
		5.3	Selection of testing tools	T1	1	
		5.4	Cost incurred in testing tools	T1	1	
		5.5	Guidelines for automation testing.	T1	1	
		5.6	Overview of Testing Tools	T1	1	
		5.7	Basics of Object Oriented Testing	T1	1	
		5.8	Object Oriented Testing	T1	1	
		5.9	Testing Web based systems: Challenges	T1	1	
		5.10	Quality aspects	T1	1	
		5.11	Web Engineering	T1	1	
		5.12	Testing of Web based systems	T1	1	
		5.13	Testing Mobile Systems	T1	1	

Course Beyond Syllabus		Requirements Traceability Matrix – RTM & Project Management Softwares like Wrike, Swift Enterprise, Jira	Web Resources	1	
Classes				13	
MID EXAM 2					
TOTAL CLASSES				70	
Text Books:					
S. No.	AUTHORS, BOOK TITLE, EDITION, PUBLISHER, YEAR OF PUBLICATION				
T1	Naresh Chauhan, Software Testing, Principles and Practices, Oxford, 2016				
T2	Aditya P Mathur, Foundations of Software testing, 2ed. Pearson, 2013				
T3	Yogesh Singh , Software Testing-, CAMBRIDGE, 2011				
Reference Books:					
S. No.	AUTHORS, BOOK TITLE, EDITION, PUBLISHER, YEAR OF PUBLICATION				
R1	Baris Beizer, Software Testing Techniques, International Thomson Computer press, second edition, 2002				
R2	M G Limaye, Software Testing Principles, Techniques and Tools, TMH, 2005				
R3	William E Perry, Effective Methods for Software Testing, 3rd Wiley, 2006				
Web Resources					
1	https://nptel.ac.in/courses/106101163/				
2	https://www.guru99.com/software-testing.html				
3	https://www.edureka.co/blog/software-testing-methodologies-and-techniques/				


Faculty


Head of the Department


Principal