PRASAD V. POTLURI SIDDHARTHA INSTITUTE OF TECHNOLOGY KANURU, VIJAYAWADA

Department of Computer Science and Engineering

III B.Tech – II Semester

23CS4601A SOFTWARE TESTING METHODOLOGIES

CO	Statement	Skill	Blooms	Units
CO1	Understand fundamentals of software testing strategies and principles.	L2	Understand	1,2,3,4,5
CO2	Apply Transaction Flow, Data Flow software testing strategies to the projects.	L3	Apply	2,3
CO3	Apply path, transition software testing strategies to the projects	L3	Apply	4,5
CO4	Analyze and choose suitable modern software testing tools for a given project	L4	Analyze	1,2,3,4,5

SOFTWARE TESTING METHODOLOGIES		
Unit No.	**Contents**	**Mapped CO**
I	**Introduction:** Purpose of testing, Dichotomies, model for testing, consequences of bugs, taxonomy of bugs, Flow graphs and Path testing: Basics concepts of path testing, predicates, path predicates and achievable paths, path sensitizing, path instrumentation, application of path testing.	CO1,CO4
II	**Transaction Flow Testing:** transaction flows, transaction flow testing techniques. **Data Flow testing:** Basics of data flow testing, strategies in data flow testing	CO1,CO2,CO4
III	**Domain Testing:** domains and paths, Nice & ugly domains, domain testing, domains and interfaces testing, domain and interface testing, domains and testability.	CO1,CO2,CO4
IV	**Paths, Path products and Regular expressions:** path products & path expression, reduction procedure, applications, regular expressions & flow anomaly detection.	CO1,CO3,CO4
V	**State, State Graphs and Transition testing:** state graphs, good & bad state graphs, state testing, Testability tips. building tools. (Student should be given an exposure to a tool like Jmeter/selenium/soapUI/Catalon).	CO1,CO3,CO4

CO-PO Mapping

Contribution of Course Outcomes towards achievement of Program Outcomes													
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	√												
CO2	√												
CO3	√											√	
CO4		√			√								

Strength of Correlation

Distribution of marks weightage to PO's through CO's.

- The strength of correlation levels is based on percentage of marks distribution towards PO.

	Test	Test Number	Marks
CIE	Objective Exam (10)	Objective Exam -1	10
		Objective Exam -2	10
	Assignment (5)	Assignment -1	5
		Assignment – 2	5
	Descriptive Exam (15)	Descriptive Exam - 1	15
		Descriptive Exam - 2	15

CO	Skill	Blooms	Units	Assessing Tools can be used to measure CO (CIE) Marks	Assessing Tools can be used to measure CO (SEE) Marks
CO1	Understand	L2	1,2,3,4,5	Objective Exam-1 (10) Objective Exam-2 (10) Descriptive Exam - 1(5)	25
CO2	Apply	L3	2,3	Descriptive Exam – 1(6.25) Assignment-1 (5) Descriptive Exam - 2 (5)	15
CO3	Apply	L3	4,5	Descriptive Exam - 2 (5) Assignment-2 (2.5)	15
CO4	Analyze	L4	1,2,3,4,5	Descriptive Exam - 1(3.75) Descriptive Exam - 2(5) Assignment-2 (2.5)	15

Strength of Correlation

% of questions towards PO	Level (Weight)
>=20% of total marks	3
>=10% and <20% of total marks	2
<10% of total marks	1

CO	Skill	Bloom's	Units	Assessing tools can be used to measure CO (CIE) Marks	CIE (Total)	Assessing tools can be used to measure CO (SEE) Marks	Total (CIE+ SEE)	Percentage (%)	Strength of Correlation	PO
CO1	Understand	L2	1,2,3,4,5	Objective Exam (10) Descriptive Exam (2.5)	12.5	Part-A (20) 5	37.5	37.5%	3	PO1
CO2	Apply	L3	2,3	Descriptive Exam (6.25) Assignment(2.5)	8.75	15	23.75	23.75%	3	PO1
CO3	Apply	L3	4,5	Descriptive Exam (2.5) Assignment (1.25)	3.75	15	18.75	18.75%	2	PO1, PSO1
CO4	Analyze	L4	1,2,3,4,5	Descriptive Exam (3.75) Assignment (1.25)	3.75 1.25	15 1.25	18.75 1.25	18.75% 1.25%	2 1	PO2 PO5

Course Articulation Matrix:

Contribution of Course Outcomes towards achievement of Program Outcomes & Strength of Correlations (3:Substantial, 2: Moderate, 1:Slight)													
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	3												
CO2	3												
CO3	2											2	
CO4		2			1								
Average	2.66	2			1							2	