Lecture Schedule

DEPARTMENT OF COMPUTER SCIENCE ENGINEERING

Branch & Section : III B.Tech - I Sem & CSE-1&2 Regulation : R19
Subject : SOFTWARE TESTING METHODOLOGIES Academic Year : 2021 -2022
Name of the Faculty : DR..A.SRINIVASA RAO

COURSE OBJECTIVES

- **OBJECTIVE:**
- Fundamentals for various testing methodologies.
- Describe the principles and procedures for designing test cases.
- Provide supports to debugging methods.
- Acts as the reference for software testing techniques and strategies.

COURSE OUTCOMES:

- Understand the basic testing procedures.
- Able to support in generating test cases and test suites.
- Able to test the applications manually by applying different testing methods and automation tools.
- Apply tools to resolve the problems in Real time environment

Unit No	Topic No	Date	Name of the Concept	No. of Classes Required
UNIT-I				
Unit - 1	1	16-9-21	**Introduction:** Evolution, Myths & Facts	1
	2	17-9-21	Goals, psychology, Definition	1
	3	18-9-21	Model for testing	1
	4	20-9-21	Effective versus exhaustive software testing	1
	5	21-9-21	**Software testing terminology :** software testing terminology	1
	6	23-9-21	software testing life cycle	1
	7	24-9-21	software testing life cycle	1
	8	25-9-21	Software testing methodology	1
	9	27-9-21	Verification & Validation : verification & validation activities, verification	1
	10	28-9-21	Verification of requirements	1
	11	30-9-21	High level & low level designs	1
	12	1-10-21	Verifying code	1
	13	4-10-21	validation	1
			Total number of hours	13

UNIT-II				
Unit - 2	1	5-10-21	**Dynamic testing-black box testing techniques:** Boundary value analysis	1
	2	7-10-21	Equivalence class testing	1
	3	8-10-21	State table based testing	1
	4	9-10-21	Decision table based testing	1
	5	11-10-21	Cause effect graphing based testing	1
	6	12-10-21	Error guessing	1
	7	14-10-21	**White box testing:** Need, logic coverage criteria	1
	8	16-10-21	logic coverage criteria	1
	9	18-10-21	Basis path testing	1
	10	19-10-21	Graph matrices	1
	11	21-10-21	Loop testing	1
	12	22-10-21	Data flow testing	1
	13	23-10-21	Mutation testing	1
			Total number of hours	13
Unit – III				
Unit - 3	1	25-10-21	**Static testing :** inspections	1
	2	26-10-21	Structured walk throughs	1
	3	28-10-21	Technical reviews	1
	4	29-10-21	**Validation activities:** unit testing	1
	5	30-10-21	Integration testing	1
	6	8-11-21	Function testing	1
	7	9-11-21	System testing	1
	8	11-11-21	Acceptance testing	1
	9	12-11-21	**Regression testing: progressives vs regressive testing**	1
	10	13-11-21	Regression test ability	1
	11	15-11-21	Objectives of regression testing	1
	12	16-11-21	Regression testing types	1
	13	18-11-21	Regression testing techniques	1
			Total number of hours	13
Unit – IV				
Unit - 4	1	19-11-21	**Efficient test suite management:** growing nature of test suit	1
	2	20-11-21	Minimizing the test suite & it's benifits	1
	3	22-11-21	Test suite prioritization	1
	4	23-11-21	Types of test cases prioritization	1
	5	25-11-21	Prioritization techniques	1
	6	26-11-21	Measuring the effectiveness of a prioritized test suite	1

	7	27-11-21	Software quality management	1
	8	29-11-21	Software quality metrics	1
	9	30-11-21	Sqa models	1
	10	2-12-21	Debugging	1
	11	3-12-21	Process	1
	12	4-12-21	Techniques	1
	13	6-12-21	Correcting bugs	1
			Total number of hours	13
			Unit – V	
Unit - 5	1	7-12-21	Automation & testing tools : need for automation	1
	2	9-12-21	Categorization of testing tools	1
	3	10-12-21	Selection of testing tools, cost incurred	1
	4	11-12-21	Guidelines for automated testing	1
	5	13-12-21	Overview of some commercial testing tools such as Win runner, Load runner, j meter and j unit	1
	6	14-12-21	Test automation using selenium tool	1
	7	16-12-21	Testing object oriented software: Basis	1
	8	17-12-21	Object oriented testing	1
	9	18-12-21	Testing web based systems : challenges in testing for web based software	1
	10	20-12-21	Quality aspects	1
	11	21-12-21	Web engineering	1
	12	23-12-21	Testing of web based systems	
	13	24-12-21	Testing mobile systems	1
			Total number of hours	13

Overall Number of classes required: 65

TEXT BOOKS:

1. Software testing techniques – Boris Beizer, Dreamtech, second edition.
2. Software Testing- Yogesh Singh, Camebridge

REFERENCE BOOKS:

1. The Craft of software testing - Brian Marick, Pearson Education.
2. Software Testing, 3rd edition, P.C. Jorgensen, Aurbach Publications (Dist.by SPD).
3. Software Testing, N.Chauhan, Oxford University Press.
4. Introduction to Software Testing, P.Ammann&J.Offutt, Cambridge Univ.Press.
5. Effective methods of Software Testing, Perry, John Wiley, 2nd Edition, 1999.
6. Software Testing Concepts and Tools, P.NageswaraRao, dreamtech Press
7. Win Runner in simple steps by Hakeem Shittu, 2007Genixpress.
8. Foundations of Software Testing, D.Graham& Others, Cengage Learning

Signature of Faculty