# **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				

1   5-10-21   Dynamic testing, black box testing techniques:   1   2   7-10-21   Equivalence class testing   1   1   1   1   1   1   1   1   1	UNIT-II							
1		1	5-10-21		1			
Variable		2	7-10-21	Equivalence class testing	1			
Unit - 2		3	8-10-21	State table based testing	1			
Unit - 2    Total number of hours   1		4	9-10-21	Decision table based testing	1			
Unit - 2 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   14   25-10-21   Static testing: inspections   1   15   2   26-10-21   Structured walk throughs   1   16   2   22-10-21   Structured walk throughs   1   17   25-10-21   Structured walk throughs   1   18   29-10-21   Validation activities: unit testing   1   19   3   28-10-21   Integration testing   1   10   6   8-11-21   Function testing   1   11   15-11-21   Acceptance testing   1   12   16-11-21   Regression testing: progressives vs regressive testing   1   19   12-11-21   Regression testing: progressives vs regressive testing   1   10   13-11-21   Regression testing: progressives vs regressive testing   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   14   19-11-21   Efficient test suite management: growing nature of test suit   1   15   20-11-21   Test suite prioritization   1   16   23-11-21   Test suite prioritization   1   17   4   23-11-21   Test suite prioritization   1   18   25-11-21   Prioritization testing test for the first suite for the content of test suite and content of test suit		5	11-10-21	Cause effect graphing based testing	1			
No.   Section		6	12-10-21	Error guessing	1			
1	Unit - 2	7	14-10-21	White box testing: Need, logic coverage criteria	1			
10		8	16-10-21	logic coverage criteria	1			
1		9	18-10-21	Basis path testing	1			
1		10	19-10-21	Graph matrices	1			
1		11	21-10-21	Loop testing	1			
Total number of hours   13		12	22-10-21	Data flow testing	1			
Unit - 3		13	23-10-21	Mutation testing	1			
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   1   1   1   1   1   1   1   1				Total number of hours				
Unit - 3    2   26-10-21   Structured walk throughs   1				Unit – III				
Unit - 3    3   28-10-21   Technical reviews   1		1	25-10-21	Static testing: inspections	1			
3   28-10-21   Technical reviews   1		2	26-10-21	Structured walk throughs	1			
1	Unit - 3	3	28-10-21	Technical reviews	1			
1		4	29-10-21	Validation activities: unit testing	1			
7   9-11-21   System testing   1		5	30-10-21	Integration testing	1			
8		6	+	<u> </u>	1			
1		7	9-11-21	System testing	1			
10   13-11-21   Regression test ability   1   1   15-11-21   Objectives of regression testing   1   12   16-11-21   Regression testing types   1   13   18-11-21   Regression testing techniques   1   1   19-11-21   Regression testing techniques   1   1   19-11-21   Efficient test suite management: growing nature of test suit   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   1   2   2   2   2   2   2   2   2		8	11-11-21	Acceptance testing	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   14   19-11-21   Efficient test suite management: growing nature of test suit   2   20-11-21   Minimizing the test suite & it's benifits   1   19-11-21   Test suite prioritization   1   1   23-11-21   Types of test cases prioritization   1   1   2   25-11-21   Prioritization   1   2   25-11-21   Prioritization   1   2   25-11-21   Prioritization techniques   1   2   2   2   2   2   2   2   2   2		9	12-11-21	Regression testing: progressives vs regressive 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		10	13-11-21	Regression test ability	1			
13   18-11-21   Regression testing techniques   1		11	15-11-21	Objectives of regression testing	1			
Total number of hours   13		12	16-11-21	Regression testing types	1			
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   1   4   23-11-21   Types of test cases prioritization   1   5   25-11-21   Prioritization techniques   1   26-11-21   Measuring the effectiveness of a migritized test suite   1   1   1   1   1   1   1   1   1		13	18-11-21	Regression testing techniques	1			
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				Total number of hours	13			
Unit - 4    Suit   2   20-11-21   Minimizing the test suite & it's benifits   1	Unit – IV							
Unit - 4  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		1	19-11-21	suit	1			
Unit - 4  4 23-11-21 Types of test cases prioritization  5 25-11-21 Prioritization techniques  1 26-11-21 Measuring the effective records an invitical test point.		2	20-11-21	Minimizing the test suite & it's benifits	1			
5 25-11-21 Prioritization techniques  1 26-11-21 Prioritization techniques		3	22-11-21	Test suite prioritization	1			
20 11 21 Managing the effective and effective distributions it	Unit - 4	4	23-11-21	Types of test cases prioritization	1			
6 26-11-21 Measuring the effectiveness of a prioritized test suite 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
		l	Total number of hours	13
			Unit – V	
	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	1
			runner, Load runner, j meter and j unit	
	6	14-12-21	Test automation using selenium tool	1
Unit - 5	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	1
			based software	
	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