SRMIST, RAMAPURAM CAMPUS

DEPARTMENT OF COMPUTER APPLICATIONS(MCA)

COURSE PLAN

1.COURSE CODE : PCA20D06J **REGULATION: 2020**
2.COURSE NAME : SOFTWARE TESTING **SEM/YEAR : II/I**
3.COURSE CATEGORY : D **ACADEMIC YEAR :2022-23**
4.PRE-REQUISITE COURSES : NIL
5.C0-RE REQUISITE COURSES : NIL
6.PROGRESSIVE COURSES : NIL
7.COURSE OFFERING DEPARTMENT : MCA
8.DATA BOOK/CODE/STANDARDS : NIL

Session	Actual Date Taken	Period	Description of topic	Contact hours	CLRs	CLOs	Learning Resources
Unit - I							
S-1			Testing Fundamentals	1	CLR-1	CLO-1	Glenford J. Myers (2008), The Art of Software Testing - John Wiley &Sons, Second Edition. New Delhi.(For Units 1,2,3)
			The Psychology of Testing		CLR-1	CLO-1	Glenford J. Myers (2008), The Art of Software Testing - John Wiley &Sons, Second Edition
S-2			Software Testing Principles	1	CLR-1	CLO-1	Glenford J. Myers (2008), The Art of Software Testing - John Wiley &Sons, Second Edition

			Explanation	1	CLR-1	CLO-1	Glenford J. Myers (2008), The Art of Software Testing - John Wiley &Sons, Second Edition
S-3			Code Inspections	1	CLR-1	CLO-1	Glenford J. Myers (2008), The Art of Software Testing - John Wiley &Sons, Second Edition
			An Error checklist for Inspections	1	CLR-1	CLO-1	Glenford J. Myers (2008), The Art of Software Testing - John Wiley &Sons, Second Edition
S-4 to S-5			Lab 1: Test Case Design for Arithmetic Calculations	2	CLR-1	CLO-1	Glenford J. Myers (2008), The Art of Software Testing - John Wiley &Sons, Second Edition
S - 6			Walkthroughs	1	CLR-1	CLO-1	Glenford J. Myers (2008), The Art of Software Testing - John Wiley &Sons, Second Edition
			Desk Checking-Peer ratings.	1	CLR-1	CLO-1	Glenford J. Myers (2008), The Art of Software Testing - John Wiley &Sons, Second Edition
S-7			Definition of bug	1	CLR-1	CLO-1	Glenford J. Myers (2008), The Art of Software Testing - John Wiley &Sons, Second Edition
			Reasons for bug occurrence	1	CLR-1	CLO-1	Glenford J. Myers (2008), The Art of Software Testing - John Wiley &Sons, Second Edition
S-8			Cost of bugs	1	CLR-1	CLO-1	Glenford J. Myers (2008), The Art of Software Testing - John Wiley &Sons, Second Edition

			Graph Explanation	1	CLR-1	CLO-1	Glenford J. Myers (2008), The Art of Software Testing - John Wiley &Sons, Second Edition
S-9 to S-10			Lab 2: Test Case Report for Sorting of n number .	2	CLR-1	CLO-1	Glenford J. Myers (2008), The Art of Software Testing - John Wiley &Sons, Second Edition
S-11			Role of a software tester	1	CLR-1	CLO-1	Glenford J. Myers (2008), The Art of Software Testing - John Wiley &Sons, Second Edition
			Software tester traits	1	CLR-1	CLO-1	Glenford J. Myers (2008), The Art of Software Testing - John Wiley &Sons, Second Edition
S-12			Software Development life cycle models	1	CLR-1	CLO-1	Glenford J. Myers (2008), The Art of Software Testing - John Wiley &Sons, Second Edition
			Explanation with diagrams	1	CLR-1	CLO-1	Glenford J. Myers (2008), The Art of Software Testing - John Wiley &Sons, Second Edition
S13			Testing axioms	1	CLR-1	CLO-1	Glenford J. Myers (2008), The Art of Software Testing - John Wiley &Sons, Second Edition
			Software testing terms and definitions	1	CLR-1	CLO-1	Glenford J. Myers (2008), The Art of Software Testing - John Wiley &Sons, Second Edition
S-14 to S-15			Lab 3: Preparation of Test Case Report on Triangle Program	2	CLR-1	CLO-1	Glenford J. Myers (2008), The Art of Software Testing - John Wiley &Sons, Second Edition
Session	**DATE**	**Period**	**Description of topic**	**Contact hours**	**CLRs**	**CLOs**	

							Learning Resources
UNIT II							
S-1			Testing Methodologies	1	CLR-2	CLO-2	Glenford J. Myers (2008), The Art of Software Testing - John Wiley &Sons, Second Edition
			White box Vs Black box	1	CLR-2	CLO-2	Glenford J. Myers (2008), The Art of Software Testing - John Wiley &Sons, Second Edition
S-2			White box testing Techniques	1	CLR-2	CLO-2	Glenford J. Myers (2008), The Art of Software Testing - John Wiley &Sons, Second Edition
			Statement coverage-Decision coverage	1	CLR-2	CLO-2	Glenford J. Myers (2008), The Art of Software Testing - John Wiley &Sons, Second Edition
S-3			Condition coverage-Decisioncondition coverage	1	CLR-2	CLO-2	Glenford J. Myers (2008), The Art of Software Testing - John Wiley &Sons, Second Edition
			Examples	1	CLR-2	CLO-2	Glenford J. Myers (2008), The Art of Software Testing - John Wiley &Sons, Second Edition
S-4 to S-5			Lab 4:Preparation of Test Case Report on Binary Search Program	1	CLR-2	CLO-2	Glenford J. Myers (2008), The Art of Software Testing - John Wiley &Sons, Second Edition
S - 6			Multiple-condition coverage	1	CLR-2	CLO-2	Glenford J. Myers (2008), The Art of Software Testing - John Wiley &Sons, Second Edition

			Explanation of examples	1	CLR-2	CLO-2	Glenford J. Myers (2008), The Art of Software Testing - John Wiley &Sons, Second Edition
S-7			Black box testing techniques	1	CLR-2	CLO-2	Glenford J. Myers (2008), The Art of Software Testing - John Wiley &Sons, Second Edition
			Advantages , Drawbacks	1	CLR-2	CLO-2	Glenford J. Myers (2008), The Art of Software Testing - John Wiley &Sons, Second Edition
S-8			Equivalence Partitioning	1	CLR-2	CLO-2	Glenford J. Myers (2008), The Art of Software Testing - John Wiley &Sons, Second Edition
			Examples	1	CLR-2	CLO-2	Glenford J. Myers (2008), The Art of Software Testing - John Wiley &Sons, Second Edition
S-9 to S-10			Lab 5: Develop a Login Form and Prepare Test Case Report		CLR-2	CLO-2	Glenford J. Myers (2008), The Art of Software Testing - John Wiley &Sons, Second Edition
S-11			Boundary-value analysis	1	CLR-2	CLO-2	Glenford J. Myers (2008), The Art of Software Testing - John Wiley &Sons, Second Edition
			Examples	1	CLR-2	CLO-2	Glenford J. Myers (2008), The Art of Software Testing - John Wiley &Sons, Second Edition
S-12			Cause-effect graphing	1	CLR-2	CLO-2	Glenford J. Myers (2008), The Art of Software Testing - John Wiley &Sons, Second Edition

			Examples	1	CLR-2	CLO-2	Glenford J. Myers (2008), The Art of Software Testing - John Wiley &Sons, Second Edition
S13			Error guessing.	1	CLR-2	CLO-2	Glenford J. Myers (2008), The Art of Software Testing - John Wiley &Sons, Second Edition
			Explanation of examples	1	CLR-2	CLO-2	Glenford J. Myers (2008), The Art of Software Testing - John Wiley &Sons, Second Edition
S-14 to S-15			Lab 6: Develop a Student Mark sheet application and Conducting Testing		CLR-2	CLO-2	Glenford J. Myers (2008), The Art of Software Testing - John Wiley &Sons, Second Edition
Session	**Date**	**Period**	**Description of topic**	**Contact hours**	**CLRs**	**CLOs**	
UNIT III							
S-1			Unit testing	1	CLR-3	CLO-3 CLO-4	Glenford J. Myers (2008), The Art of Software Testing - John Wiley &Sons, Second Edition
			Examples	1	CLR-3	CLO-3 CLO-4	Glenford J. Myers (2008), The Art of Software Testing - John Wiley &Sons, Second Edition
S-2			Incremental testing	1	CLR-3	CLO-3 CLO-4	Glenford J. Myers (2008), The Art of Software Testing - John Wiley &Sons, Second Edition
			Incremental Vs Non Incremental testing	1	CLR-3	CLO-3 CLO-4	Glenford J. Myers (2008), The Art of Software Testing - John Wiley &Sons, Second Edition

S-3			Top-down testing	1	CLR-3	CLO-3 CLO-4	Glenford J. Myers (2008), The Art of Software Testing - John Wiley &Sons, Second Edition
			Bottom-up testing	1	CLR-3	CLO-3 CLO-4	Glenford J. Myers (2008), The Art of Software Testing - John Wiley &Sons, Second Edition
S-4 to S-5			Lab 7: Develop a Employee salary Processing application and Prepare Test Case Report		CLR-3	CLO-3 CLO-4	Glenford J. Myers (2008), The Art of Software Testing - John Wiley &Sons, Second Edition
S - 6			System testing	1	CLR-3	CLO-3 CLO-4	Glenford J. Myers (2008), The Art of Software Testing - John Wiley &Sons, Second Edition
			Categories	1	CLR-3	CLO-3 CLO-4	Glenford J. Myers (2008), The Art of Software Testing - John Wiley &Sons, Second Edition
S-7			Facility-Volume-Stress	1	CLR-3	CLO-3 CLO-4	Glenford J. Myers (2008), The Art of Software Testing - John Wiley &Sons, Second Edition
			Usability-Security	1	CLR-3	CLO-3 CLO-4	Glenford J. Myers (2008), The Art of Software Testing - John Wiley &Sons, Second Edition
S-8			Performance-Storage	1	CLR-3	CLO-3 CLO-4	Glenford J. Myers (2008), The Art of Software Testing - John Wiley &Sons, Second Edition
			Configuration-Compatibility	1	CLR-3	CLO-3 CLO-4	Glenford J. Myers (2008), The Art of Software Testing - John Wiley &Sons, Second Edition

S-9 to S-10			Lab 8: Develop a Flight Reservation application and Prepare Test Case Report		CLR-3	CLO-3 CLO-4	Glenford J. Myers (2008), The Art of Software Testing - John Wiley &Sons, Second Edition
S-11			Installability,Reliability	1	CLR-3	CLO-3 CLO-4	Glenford J. Myers (2008), The Art of Software Testing - John Wiley &Sons, Second Edition
			Recovery-Serviceability	1	CLR-3	CLO-3 CLO-4	Glenford J. Myers (2008), The Art of Software Testing - John Wiley &Sons, Second Edition
S-12			Web Site Testing	1	CLR-3	CLO-3 CLO-4	Glenford J. Myers (2008), The Art of Software Testing - John Wiley &Sons, Second Edition
			Explanation With Example	1	CLR-3	CLO-3 CLO-4	Glenford J. Myers (2008), The Art of Software Testing - John Wiley &Sons, Second Edition
S13			Testing for Software Security	1	CLR-3	CLO-3 CLO-4	Glenford J. Myers (2008), The Art of Software Testing - John Wiley &Sons, Second Edition
			Explanation With Example	1	CLR-3	CLO-3 CLO-4	Glenford J. Myers (2008), The Art of Software Testing - John Wiley &Sons, Second Edition
S-14 to S-15			Web site Testing	1	CLR-3	CLO-3 CLO-4	Glenford J. Myers (2008), The Art of Software Testing - John Wiley &Sons, Second Edition
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		UNIT IV					

S1			Automated Testing and Test Tools	1	CLR-4 CLR -4	CLO-4 CLO-5	Ron Patton (2007), Software Testing – Pearson Education, Second Edition, New Delhi
			Examples of various test tools.	1	CLR-4 CLR -4	CLO-4 CLO-5	Ron Patton (2007), Software Testing – Pearson Education, Second Edition, New Delhi
S2			Benefits of test tools	1	CLR-4 CLR -4	CLO-4 CLO-5	Ron Patton (2007), Software Testing – Pearson Education, Second Edition, New Delhi
			Software Test Automation	1	CLR-4 CLR -4	CLO-4 CLO-5	Ron Patton (2007), Software Testing – Pearson Education, Second Edition, New Delhi
S3			Bug Bashes	1	CLR-4 CLR -4	CLO-4 CLO-5	Ron Patton (2007), Software Testing – Pearson Education, Second Edition, New Delhi
			Beta Testing	1	CLR-4 CLR -4	CLO-4 CLO-5	Ron Patton (2007), Software Testing – Pearson Education, Second Edition, New Delhi
S-4 to S-5			Lab 10: Software Test Automation using testing tool		CLR-4 CLR -4	CLO-4 CLO-5	Ron Patton (2007), Software Testing – Pearson Education, Second Edition, New Delhi
S - 6			Alpha testing Vs Beta testing	1	CLR-4 CLR -4	CLO-4 CLO-5	Ron Patton (2007), Software Testing – Pearson Education, Second Edition, New Delhi
			Writing and Tracking Test Cases	1	CLR-4 CLR -4	CLO-4 CLO-5	Ron Patton (2007), Software Testing – Pearson Education, Second Edition, New Delhi

S-7			Test Case Planning Overview	1	CLR-4 CLR -4	CLO-4 CLO-5	Ron Patton (2007), Software Testing – Pearson Education, Second Edition, New Delhi
			Goals	1	CLR-4 CLR -4	CLO-4 CLO-5	Ron Patton (2007), Software Testing – Pearson Education, Second Edition, New Delhi
S-8			Bug's Life cycle	1	CLR-4 CLR -4	CLO-4 CLO-5	Ron Patton (2007), Software Testing – Pearson Education, Second Edition, New Delhi
			Explanation with diagram.	1	CLR-4 CLR -4	CLO-4 CLO-5	Ron Patton (2007), Software Testing – Pearson Education, Second Edition, New Delhi
S-9 to S-10			Lab 11: Writing and Tracking Test Cases		CLR-4 CLR -4	CLO-4 CLO-5	Ron Patton (2007), Software Testing – Pearson Education, Second Edition, New Delhi
S11			Bug Tracking System	1	CLR-4 CLR -4	CLO-4 CLO-5	Ron Patton (2007), Software Testing – Pearson Education, Second Edition, New Delhi
			Case study	1	CLR-4 CLR -4	CLO-4 CLO-5	Ron Patton (2007), Software Testing – Pearson Education, Second Edition, New Delhi
S12			Software Quality Assurance A	1	CLR-4 CLR -4	CLO-4 CLO-5	Ron Patton (2007), Software Testing – Pearson Education, Second Edition, New Delhi

			ISO Standards	1	CLR-4 CLR -4	CLO-4 CLO-5	Ron Patton (2007), Software Testing – Pearson Education, Second Edition, New Delhi
S13			Test case Design	1	CLR-4 CLR -4	CLO-4 CLO-5	Ron Patton (2007), Software Testing – Pearson Education, Second Edition, New Delhi
			Case study	1	CLR-4 CLR -4	CLO-4 CLO-5	Ron Patton (2007), Software Testing – Pearson Education, Second Edition, New Delhi
S-14 to S-15			Lab 12: Bug Tracking System		CLR-4 CLR -4	CLO-4 CLO-5	Ron Patton (2007), Software Testing – Pearson Education, Second Edition, New Delhi
Session	**Date**	**Period**	**Description of topic**	**Contact hours**	**CLRs**	**CLOs**	**Learning Resources**
UNIT V							
S-1			Introduction to Selenium Selenium Open source tool	1	CLR-5	CLO-5	Arun Motoori (2019) Selenium - A Brief Overview , ebook
S-2			Things selenium can automate Browsers supported by Selenium	1	CLR-5	CLO-5	Arun Motoori (2019) Selenium - A Brief Overview , ebook
S-3			OS supported by Selenium Examples	1	CLR-5	CLO-5	Arun Motoori (2019) Selenium - A Brief Overview , ebook
S-4 to S-5			Lab 13: Basic Operation of Selenium Testing tool	1	CLR-5	CLO-5	Arun Motoori (2019) Selenium - A Brief Overview , ebook

S - 6			Programming language supported by Selenium Selenium versions	1	CLR-5	CLO-5	Arun Motoori (2019) Selenium - A Brief Overview , ebook
S-7			History of Selenium – Selenium Core Selenium Grid – Selenium RC	1	CLR-5	CLO-5	Arun Motoori (2019) Selenium - A Brief Overview , ebook
S-8			Selenium Components Selenium Toolset	1	CLR-5	CLO-5	Arun Motoori (2019) Selenium - A Brief Overview , ebook
S-9 to S-10			Lab 14:Working with Selenium Components		CLR-5	CLO-5	Arun Motoori (2019) Selenium - A Brief Overview , ebook
S-11			Locators Locators Strategies	1	CLR-5	CLO-5	Arun Motoori (2019) Selenium - A Brief Overview , ebook
S-12			Add ons Examples	1	CLR-5	CLO-5	Arun Motoori (2019) Selenium - A Brief Overview , ebook
S13			Unit testing Frameworks Case study:TestNG Unit Testing Frameworks	1	CLR-5	CLO-5	Arun Motoori (2019) Selenium - A Brief Overview , ebook
S-14 to S-15			Lab 15:Selenium Web driver Handling	1	CLR-5	CLO-5	Arun Motoori (2019) Selenium - A Brief Overview , ebook

Course Learning Rationale:	The purpose of learning this course is to:	Course Learning Outcome(CLO):	At the end of this course, learners will be able to:
CLR-1:	To impart knowledge on the fundamentals of software testing and Quality assurance	CLO-1:	Familiarize the fundamentals of software testing fundamentals
CLR-2:	To provide a complete, comprehensive coverage of various software testing methods	CLO-2:	Understand the various techniques of White box and Black box Testing
CLR-3:	To develop test cases using manual testing	CLO-3:	Examine basic methodologies of Levels of Testing and Various Testing
CLR-4:	To enable the learner to become a Software Tester / Quality Assurance Member	CLO-4:	Develop test cases using manual testing
CLR-5:	To enable the learner to practice Automation testing Tool Selenium	CLO-5:	Acquire the latest industry knowledge, tools and comply to the latest global standards for software Testing

Sl. No.	**Learning Resources**
1	Glenford J. Myers (2008), The Art of Software Testing - John Wiley &Sons, Second Edition, New Delhi.(For Units 1,2,3)
2	Ron Patton (2007), Software Testing – Pearson Education, Second Edition, New Delhi (For Units 1,3,4)
3	Arun Motoori(2019),Selenium - A Brief Overview , ebook. (For Unit 5)
4	William E Perry (2000), Effective Methods for Software Testing, John Wiley & Sons, Second Edition, New York.
5	.Boris Beizer (1995), Black-Box Testing: -Techniques for Functional Testing of Software and Systems, John Wiley & Sons, New York

Staff Incharge **HOD / MCA**