

Software Testing
Software Testing
[CORE COURSE]

Semester :VI	Credits: 3	Subject Code: BC62202	Lectures: 48
---------------------	-------------------	------------------------------	---------------------

Course Outcomes:

At the end of this course, the learner will be able to:

- Introduce to testing tools.
- Gain knowledge in Software testing techniques.
- Design test case plan for testing software.
 - Acquire knowledge of basic QA.

Unit 1: Introduction	10
<ul style="list-style-type: none"> • Introduction, Nature of errors, Testing Objectives • Testing principles, Testing fundamentals, • Software reviews, Formal Technical reviews, Inspection and walkthrough • Testing Life Cycle 	

Unit 2: Software Testing methodologies	15
<ul style="list-style-type: none"> • White Box Testing and types of white box testing • Test Case Design • Black Box Testing and types of black box testing • Gray Box Testing Overall System structure • Software Testing Process • Unit Testing • Integration- Top-down ,Bottom up, Big Bang Approach, Sandwich Approach • System Testing • Acceptance Testing (alpha, Beta testing) • Validation and Verification • Performance Testing • Regression Testing • Smoke Testing • Load Testing 	



Unit 3: Software metrics	10
<ul style="list-style-type: none"> • Introduction • Basic Metrics –size-oriented metric, Function –oriented metric 	

Board Of Studies	Name	Signature
Head of the Department	Ms Smita Borkar	6/8/21

<ul style="list-style-type: none"> • Cyclometric Complexity Metrics Examples on Cyclometric Complexity 	
-----------------------------------------------------------------------------------------------------------------------	--

Unit 4: Testing Tools & Software Quality Assurance (Introduction)	13
<ul style="list-style-type: none"> • Testing for Specialized Environment <ul style="list-style-type: none"> ○ Testing GUI's ○ Testing of Client/Server Architectures ○ Testing Documentation and Help Facilities ○ Testing for Real-Time Systems • Load runner, Rational Robot, Selenium, Devops, Practical implementation of testing tools • Quality Concepts, Quality Movement, Background Issues, SQA activities <ul style="list-style-type: none"> ○ Formal approaches to SQA ○ Statistical Quality Assurance • Software Reliability • The ISO 9000 Quality Standards <ul style="list-style-type: none"> ○ SQA Plan ○ Six sigma • Informal Reviews 	

#12 hours for Library work, assignments, practical or field work

Recommended Text Books:

- Roger S Pressman, *Software Engineering –A Practitioner's approach*, Tata McGraw-Hill publication 7 edition.
- William E Perry, *Effective Methods of Software Testing*, Wiley Publishing Inc

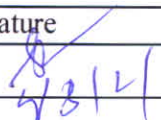
Reference Books:

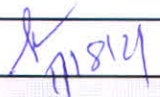
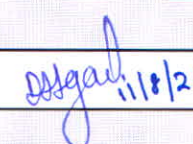




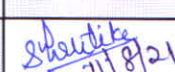
- Dale H. Besterfield, *Total Quality Management*, Prentice Hall, 2003
- Roger S Pressman, *Software Engineering –A Practitioner's approach*, Tata McGraw-Hill publication 7 edition.
- Srinivasan Desikan, Gopalswamy, Ramesh, *Software Testing Principles and Practices*, Pearson Publications
- William E Perry, *Effective Methods of Software Testing*, Wiley Publishing Inc..

Websites:

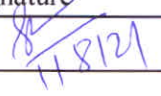
- www.w3school.com



Board Of Studies	Name	Signature
Head of the Department	Ms Smita Borkar	

Board Of Studies	Name	Signature	
Head of the Department	Ms Smita Borkar		 11/8/21
Faculty*	Asst Prof. Deepali Gupta	 11/8/21	
Faculty*	Asst Prof Monika Rajguru		 11/8/21
Subject Expert (Outside SPPU)	Prof. Sachin Bhoite	 11/8/21	
Subject Expert (Outside SPPU)	Dr. Sagar Jambhorkar		 11/8/21
VC Nominee	Prof Anjum Patel	 11/8/21	
Industry Expert	Ms. Shrutika Wayal		 11/8/21
One Alumni***	Ms. Vidhi Thakkar		



Board Of Studies	Name	Signature
Head of the Department	Ms Smita Borkar	 11/8/21