



Vishnu Waman Thakur Charitable Trust's

VIVA Institute of Technology

Approved by AICTE, New Delhi, DTE, Government of Maharashtra, Affiliated to University of Mumbai
At- Shirgaon, Post-Virar (E.), Tal-Vasai, Dist-Palghar – 401 305.

Tel.: 777 000 2544 • Website : www.viva-technology.org

E-mail: contact@viva-technology.org / principalvit@vivacollege.org

Department of Electronics and Telecommunication Engineering

Course Name:	Bridge Course on Software testing
Name of the Faculty:	Mrs. Priyanka jadhav
Designation:	Assistant Professor
Organization/Institution:	Viva Institute of Technology
Duration:	16th Feb 2026 to 13th March, 2026
Time:	30 hours
Number of Students:	18

Introduction

The Department of Computer Engineering/Artificial Intelligence and Machine Learning organized a **4-week Bridge Course on Software Testing** to equip students with the fundamental concepts and practical skills required in software quality assurance. The course aimed to bridge the gap between academic learning and industry requirements by introducing students to software testing methodologies, testing tools, and best practices.

Objectives

The objectives of the bridge course were:

- To understand the fundamentals of software testing.
- To learn various software testing techniques and methodologies.
- To gain practical experience using testing tools.
- To understand the Software Development Life Cycle (SDLC) and Software Testing Life Cycle (STLC).
- To prepare students for careers in software testing and quality assurance.



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Course Outcomes

Upon successful completion of the course, students were able to:

- Explain software testing concepts and principles.
- Design and execute manual test cases.
- Identify and report software defects effectively.
- Perform basic automation testing using Selenium.
- Understand industry-standard testing practices.
- Apply testing knowledge to real-world software applications.

Programme Summary:

Duration: 30 Hours

Venue: VIVA Institute of Technology, Shirgaon.

The **4-week Bridge Course on Software Testing** was designed to provide students with a strong foundation in software testing concepts and practical skills required in the software industry. The program covered the fundamentals of software testing, including the Software Development Life Cycle (SDLC), Software Testing Life Cycle (STLC), testing principles, and various testing methodologies such as black-box, white-box, and grey-box testing.

Students were introduced to different levels of testing, including unit, integration, system, and acceptance testing, along with functional and non-functional testing techniques. The course also included hands-on sessions on test case design, defect reporting, and the use of basic automation testing tools such as Selenium WebDriver. Industry practices such as Agile testing, software quality assurance (SQA), and bug tracking were also discussed to familiarize students with real-world software development environments.

The program concluded with practical assignments and a mini project, enabling students to apply the concepts learned throughout the course. Overall, the bridge course enhanced students' technical knowledge, improved their problem-solving abilities, and prepared them for internships, placements, and careers in software testing and quality assurance.



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Topics covered in course:

Sr.no	Contents	Hrs.
1	Introduction	01
2	Level of testing	02
3	Basic concept of testing	02
4	Unit testing	01
5	Equivalence and BV testing	02
6	Combinational testing	02
7	White box testing	02
8	Black box testing	02
9	Path testing	02
10	Dataflow and mutation testing	03
11	System testing	02
12	Regression testing	03
13	MC/DC Tesing	02
14	Alpha testing	02
15	Mutation testing	02

CO-PO MAPPING:

Course Outcome	Program Outcome												CO Target level
	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	
CO1	3	2	-	-	1	-	-	-	-	1	-	2	0.75
CO2	2	3	2	2	2	-	-	-	-	1	-	2	1.16
CO3	2	3	2	3	2	-	-	1	1	2	-	2	1.5
CO4	2	2	2	2	3	-	-	-	-	1	-	2	1.16
CO5	2	2	1	2	2	-	-	1	1	2	-	2	1.25
CO6	3	3	3	3	3			1	2	2	1	3	2



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Student Certificate format:

