Problem Solving and Ideation Workshop

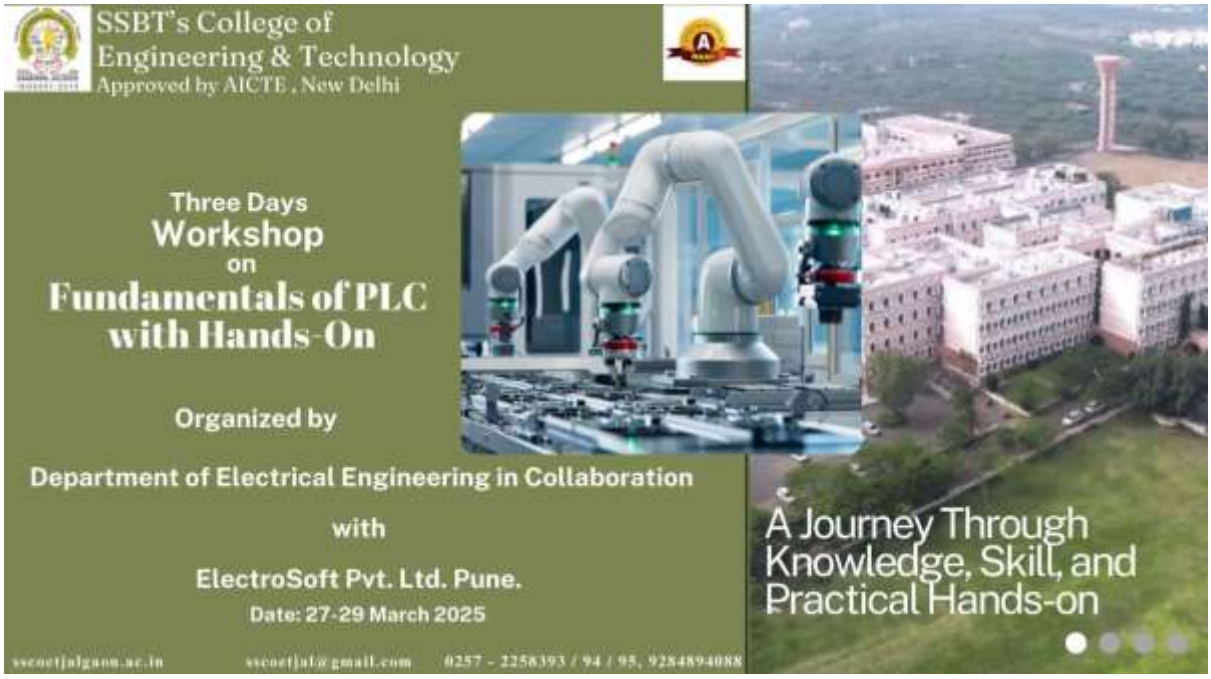
A workshop on Programmable Logic Controller

Conducted by Electrical Department

Activity Report

Academic Year	2024-25
Program Driven by	Problem Solving and Ideation Workshop
Quarter	I
Program / Activity Name	
Program Type	
Program Theme	
Start Date	
End Date	
Duration of the Activity (in Mins)	4Hr
Number of Student Participant	
Number of Faculty Participant	
Number of external Participant	--
Expenditure Amount in Rs.	
Any Remark	--
Mode of Session Delivery	Offline
Objective	
Benefit in terms of Learning / Skills / Knowledge obtained	
Feedback	
Video url (mp4)	
Photograph 1 (jpg)	Attached
Photograph 2 (jpg)	Attached
Overall report of the Activity (pdf)	As given below

Dr. P. H. Zope
Convener IIC


SSBT's College of
Engineering & Technology
Approved by AICTE , New Delhi
Three Days
Workshop
on
Fundamentals of PLC
with Hands-On
Organized by
Department of Electrical Engineering in Collaboration
with
ElectroSoft Pvt. Ltd. Pune.
Date: 27-29 March 2025
A Journey Through
Knowledge, Skill, and
Practical Hands-on


Village
Bambhori
Decimal DMS
Latitude 21.013965 21°0'50" N
Longitude 75.502413 75°30'8" E
2025-03-28(Fri) 12:32(pm)


GPS Map Camera
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2g72+gm4, Bambhori Pr. Chandsar, Maharashtra 425002, India
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Report on Problem Solving and Ideation Workshop

Workshop Title: Problem Solving and Ideation using Programmable Logic Controller (PLC)
Dates: 27th – 29th March 2025
Organized by: Electrical Engineering Department
Institution: SSBT's College of Engineering & Technology, Bambhori, Jalgaon
Venue: Electrical Engineering Lab / Seminar Hall
Participants: 65 Students, 7 Faculty Members
Projects Developed: 13

Introduction:

The Electrical Engineering Department organized a **3-day workshop on Problem Solving and Ideation** using **Programmable Logic Controllers (PLC)** from **27th to 29th March 2025**. The workshop aimed to equip students with practical knowledge and application-based skills in industrial automation using PLCs, a critical component in modern control systems.

Objectives:

- To introduce the fundamentals of PLC systems and their role in industrial automation.
- To develop logical thinking and problem-solving approaches using PLC programming.
- To promote student innovation by guiding them to develop mini-projects using PLCs.
- To enhance hands-on learning with real-time implementation of automated control systems.

Workshop Highlights:

- **Day 1:** Introduction to PLC – architecture, working principles, ladder logic programming basics.
- **Day 2:** Hands-on sessions on PLC programming using simulation and hardware setups.
- **Day 3:** Ideation, team formation, and project development focused on solving real-life automation problems.

Student Participation and Outcomes:

- A total of **65 students** actively participated in the workshop.
- **13 innovative projects** were developed by student teams, including:

  - Automatic streetlight control
  - Elevator control system
  - Conveyor belt sorting
  - Traffic signal automation
  - Water level monitoring and control
- Students applied structured thinking and team collaboration to convert ideas into working models.

Faculty Involvement:

- **7 faculty members** mentored the students, guided programming logic, and evaluated the projects.
- They also conducted brainstorming sessions to enhance ideation techniques.

Outcomes:

- Improved understanding of PLC-based automation systems among students.
- Boosted problem-solving and analytical skills through applied learning.
- Encouraged teamwork, innovation, and project-based learning.
- Helped bridge the gap between theoretical concepts and industrial applications.

Conclusion:

The **Problem Solving and Ideation Workshop on PLC** was a highly successful initiative by the Electrical Engineering Department. The enthusiastic participation and innovative projects demonstrated the potential of students when provided with the right platform and guidance. The workshop not only enhanced technical competency but also fostered a creative mindset toward engineering challenges.