DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

Report on Six-Day Skill Development Training Program on "PLC Training" The Department of Electrical and Electronics Engineering, **Kallam Haranadhareddy Institute of Technology, Chowdavaram, Guntur, organized a** Six-Day Skill Development Training Program on "**PLC Training**" from 10th June 2024 to 15th June 2024**.**

Organized by: Department of Electrical and Electronics Engineering (EEE)

Resource Person:

Mr. B. Mahidhar

Designation: Trainer cum Developer, APSSDC, Tadepalli, Guntur.

Coordinators:

1. **Dr. P. P. Sharma**
2. **Mrs. P. Kavitha**

Topic: Six-Day Workshop on PLC Training

Venue: 1G-07

Date & Duration: 10th June 2024 to 15th June 2024 (Six Days)

Target Audience: III.B.Tech Students

Objectives of the Event:

- This program Learn the fundamental concepts of PLCs, including their role in automation, components, and operation.
- Gain knowledge about PLC hardware such as CPUs, input/output modules, power supplies, and communication interfaces.
- Understand and practice programming using languages like Ladder Logic, Function Block Diagram (FBD), Structured Text (ST), and others.
- Create, test, and debug PLC programs for various automation tasks.
- Learn how PLCs communicate with other devices such as sensors, actuators, HMIs (Human Machine Interfaces), and SCADA systems.
- Acquire skills to diagnose faults, troubleshoot hardware and software issues, and maintain PLC systems effectively.

Outcome of the Event:

Student learning outcomes of the workshop and talks include the ability to:

- Trainees will be able to explain the basic concepts, architecture, and components of PLCs.
- Participants will be skilled in writing, testing, and debugging PLC programs using common programming languages like Ladder Logic.
- Trainees will gain practical experience operating and configuring real or simulated PLC hardware.
- Ability to diagnose and fix common faults and errors in PLC systems efficiently.
- Capability to design and implement automated control processes for various industrial applications.
- Participants will be familiar with communication methods between PLCs and other devices (e.g., sensors, HMIs).
- Ability to perform routine maintenance and adhere to safety standards in handling PLC-based automation.
- Trainees will be prepared to work in real-world industrial settings involving PLC-controlled machinery and processes.

The schedule of tour and places covered as follows.

S. No.	Date & Day	Topics
1	10/06/2024 (Monday)	Introduction to Automation and PLCs History and Evolution of PLCs
2	11/010/2024 (Tuesday)	Advantages and Applications of PLCs PLC Components: CPU, Power Supply, Input/Output Modules
3	12/10/2024 (Thursday)	Types of PLCs (Compact, Modular) Sensors and Actuators interfacing
4	13/10/2024 (Thursday)	Communication ports and protocols Introduction to PLC Programming Software
5	14/10/2024 (Friday)	Programming Languages (Ladder Logic, Function Block Diagram, Structured Text, Instruction List, Sequential Function Chart)
6	15/10/2024 (Saturday)	Hands-on Programming Exercises Simulated and Real Hardware Experiments

Description / Report on Event:

Department of Electrical and Electronics Engineering have organized a Six day workshop on "**PLC Training**" in APSSDC lab (1G07). It was conducted for the students of IV B. Tech of EEE Branch from **10th June 2024 to 15th June 2024**. A total of 54 students were registered and attended for the event in offline mode. The workshop aimed to design PLC boards the students

and an important of PLC in real time applications and The HOD given the detail explanation of department vision and mission to the students.

Dr. K. Hari Krishna, Head of the Department of EEE went onto demonstrate the agenda of workshop. He told how students will be benefited from this workshop on their way to becoming an expert in their field and initiated the event with an inspirational speech.

Mr. B. Mahidhar, Trainer, APSSDC, Vijayawada, Andhra Pradesh, Resource Person of the event congratulated and appreciated the efforts of the students for conducted workshop in the EEE department of KHIT. He told that workshop of benefits specifically targeted for students in order to fill the void and increase the positive experience for students with a token of appreciation from entire EEE department who graced the event with his presence.

Course Outcomes	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PSO 1	PSO 2	PSO 3

CO1: Understand the fundamental concepts of IoT, including architecture, components, and communication protocols.	2	-	-	-	1	2	2	-	-	-	-	2	2	3	2
CO2: Develop skills in designing and implementing IoT applications using sensors, microcontrollers, and cloud platforms.	2	-	1	-	-	2	2	2	2	-	-	2	2	3	2
CO3: Enhance problem-solving and teamwork abilities by working on real-time IoT projects and applications.	2	-	-	-	-	2	-	-	2	3	-	2	2	3	2
AVG	2		1	-	1	2	2	2	2	3	-	2	2	3	2

CONCLUSION

PLC training equips participants with essential knowledge and practical skills to design, program, and troubleshoot programmable logic controllers, which are the backbone of modern industrial automation. Through a blend of theoretical learning and hands-on experience, trainees gain confidence in handling real-world automation challenges, improving efficiency, reliability, and safety in industrial processes. Mastery of PLC technology opens doors to various career opportunities in automation, manufacturing, and control systems engineering, making it an invaluable skill in today's technology-driven industries.