



AALIM MUHAMMED SALEGH COLLEGE OF ENGINEERING
IAF-AVADI, CHENNAI - 55
DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING



CIRCULAR

AMSCE/EEE/CIR/VAC/001/2021 - 22

Date: 04.10.2021

The Department of Electrical and Electronics Engineering plans to conduct a Value Added Course on PLC by **J.Sajid, Control Engineer, M/s Sakthi Electrical Company**, for the benefit of II-year CSE students. This course is scheduled from 05.10.2021 to 29.10.2021 (**4:00 PM to 06:00 PM**) for 4 weeks (30 Hrs).

All the students must attend all the classes with a minimum of 75% attendance and score 50% on the quiz. Students who complete the course successfully will receive certificates.

Rajini
04/10/21
HOD/EEE

Copy To:

Principal
IQAC
Circulate to all faculty members and Students
Department File



[Signature]
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Approved by AICTE & NAAC Accredited Institution



DEPARTMENT OF **ELECTRICAL AND ELECTRONICS ENGINEERING**

Permanently Affiliated to Anna University, Chennai-25.

Organizing **Value Added Course On** **PLC PROGRAMMING** **AND PRACTICES IN OMRON PLC**

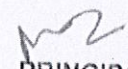
Participants : IV Year EEE Students



RESOURCE PERSON
Er.J.SAJID
Control Engineer
Sakthi Electrical Company

DATE :
05.10.2021 TO
29.10.2021




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Er.M.S.Rajan
Head/EEE

Dr.S.Sathish
Principal



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DEPARTMENT OF ELECTRICAL AND ELECTRONICS
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REPORT FOR THE VALUE ADDED COURSE ON PLC

Course Name: PLC

Resource Person : J.Sajid, Control Engineer, M/s Sakthi Electrical Company

Date: 05.10.2021 to 29.10.2021

Time: 04.00 P.M to 06.00 P.M

Course Hours: 30 Hours

Attended Student: 27 Students

Student Certified: 27 Students

Course Overview

The 30-hour course focused on providing hands-on training in programming and practical applications of Omron PLCs (Programmable Logic Controllers). Designed for technicians and engineers, the course aimed to enhance participants' skills in automation and control systems.

Objectives

- To understand the fundamentals of PLC programming.
- To gain practical experience in programming Omron PLCs.
- To apply knowledge through real-world scenarios and projects.
- To foster troubleshooting and problem-solving skills in automation.

Course Structure

1. **Introduction to PLCs**
 - Overview of PLC architecture and components.
 - Differences between PLCs and traditional control systems.
2. **Programming Fundamentals**
 - Basics of ladder logic and structured text programming.
 - Introduction to Omron programming software (e.g., CX-Programmer).
3. **Hands-On Training Modules**
 - **Module 1:** Basic Programming Techniques
 - Creating simple control programs.
 - Implementing timers and counters.
 - **Module 2:** Advanced Programming Concepts
 - Utilizing functions and function blocks.
 - Implementing data handling and communication protocols.
 - **Module 3:** Practical Applications
 - Developing a project involving multiple inputs and outputs.
 - Real-time monitoring and control systems.




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4. Troubleshooting and Maintenance

- Common issues in PLC programming and how to resolve them.
- Best practices for PLC maintenance and updates.

5. Capstone Project

- Participants worked on a final project that integrated course concepts, demonstrating their ability to design, program, and troubleshoot an automated system.

Outcomes

- Participants successfully programmed various applications using Omron PLCs.
- Enhanced understanding of automation concepts and practical implementation.
- Increased confidence in troubleshooting PLC-related issues.

Feedback

- Overall positive feedback from participants regarding the course content and delivery.
- Suggestions for future courses included more advanced topics and extended lab time.

Conclusion

The course effectively equipped participants with essential skills in PLC programming, particularly using Omron systems. Continued education and practice were recommended to keep pace with advancements in automation technology.


30/10/21
COURSE-COORDINATOR


HOD/EVE

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From

Mr. A.Anwar Basha,
Assistant Professor,
Department of Electrical and Electronics Engineering,
Aalim Muhammed Salegh College of Engineering,
Muthapudupet, Avadi IAF,
Chennai – 600055.

To

The Principal,
Aalim Muhammed Salegh College of Engineering,
Muthapudupet, Avadi IAF,
Chennai – 600055.

Dear Sir,

Sub: Request for Approval of Value-Added Course: PLC – reg.

I am writing to request your approval for the value-added course titled “PLC Programming and Practics in Omron PLC” for IV year EEE students from 05.10.2021 – 29.10.2021. I believe that the course will enhance the skills and competencies of our students. Given the growing interest and relevance of this subject, I believe that offering this course would greatly benefit our students’ educational experience and equip them with valuable skills. Kindly consider the request and do the needful.

A.A.S.
21/10/21
Yours faithfully,

Submitted to the Principal Sirs
Sir, I request you to kindly
approve the said program and
do the needful.

Prin
21/10/21

Permitted
Aha
20/10/2021

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SYLLABUS FOR THE VALUE ADDED COURSE PLC

MODULE I: Introduction to PLCs

Overview of PLCs –Definition and purpose of PLCs - Historical development and evolution

Comparison with traditional relay systems - Components of a PLC -Input/Output modules

Central Processing Unit (CPU) -Power supply and memory structures - Basic Operation

Understanding the scan cycle -Types of PLCs and their applications

MODULE II: Programming Basics

Programming Languages - Ladder Logic programming fundamentals -Other programming languages (Structured Text, Function Block Diagram) -Instruction Set -Basic instructions: Latch, Timer, Counter, Arithmetic operations -Comparison instructions: Equal, Greater than, Less than -Hands-On Practice-Simple ladder logic exercises using simulators


MODULE III: Advanced Programming Techniques

Complex Control Structures -Implementing timers and counters in ladder logic -Advanced sequencing and control strategies -Real-World Applications -Case studies of PLC applications in industry (e.g., traffic light control, motor control) -Integration with HMI -Basics of Human-Machine Interface (HMI) integration with PLCs

MODULE IV: Practical Applications and Project Work

Project Development -Participants will work on a capstone project that involves designing a PLC-based control system for a specific application -Troubleshooting and Maintenance -Common issues in PLC systems and troubleshooting techniques -Final Assessment -Presentation of projects and evaluation based on functionality and design


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SCHEDULE FOR THE VALUE ADDED COURSE PLC

Time: 04.00 P.M to 06.00 P.M

WEEK 1 : 05.10.2021 to 08.10.2021

Introduction to PLCs (7.5 hours) -Overview of PLCs -Definition and purpose of PLCs

Historical development and evolution

Comparison with traditional relay systems

Components of a PLC

Input/Output modules

Central Processing Unit (CPU)

Power supply and memory structures

Basic Operation

Understanding the scan cycle

Types of PLCs and their applications

WEEK 2 : 11.10.2021 to 15.10.2021

Programming Basics (7.5 hours)

Programming Languages

Ladder Logic programming fundamentals

Other programming languages (Structured Text, Function Block Diagram)

Instruction Set

Basic instructions: Latch, Timer, Counter, Arithmetic operations




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Comparison instructions: Equal, Greater than, Less than

Hands-On Practice

Simple ladder logic exercises using simulators

WEEK 3 : 18.10.2021 to 22.10.2021

Advanced Programming Techniques (7.5 hours)

Complex Control Structures

Implementing timers and counters in ladder logic

Advanced sequencing and control strategies

Real-World Applications

Case studies of PLC applications in industry (e.g., traffic light control, motor control)

Integration with HMI

Basics of Human-Machine Interface (HMI) integration with PLCs

WEEK 4 : 25.10.2021 to 29.10.2021

Practical Applications and Project Work (7.5 hours)


Project Development


Participants will work on a capstone project that involves designing a PLC-based control system for a specific application.

Troubleshooting and Maintenance

Common issues in PLC systems and troubleshooting techniques

Final Assessment


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DEPARTMENT OF ELECTRICAL & ELECTRONICS ENGINEERING
Certificate course on PLC
Academic year-2021-2022

BATCH: 2018-2022


YEAR: IV/VII

S.No	Reg. no	NAME	5.10.21	6.10.21	7.10.21	8.10.21	11.10.21
1	110118105001	AHAMED IJAZ.K	Ijaz	Ijaz	Ijaz	Ijaz	Ijaz
2	110118105003	FAIZ AHMED.H	Fah	Fah	Fah	Fah	Fah
3	110118105004	FAYAZ AHMED.I	Fay	Fay	Fay	Fay	Fay
4	110118105005	GHOUSE MOHIDEEN.M.K	Ghs	Ghs	Ghs	Ghs	Ghs
5	110118105006	IMRAN AHMED.J	Imr	Imr	Imr	Imr	Imr
6	110118105007	IRSATH AHAMED.M	Isa	Isa	Isa	Isa	Isa
7	110118105008	IRSHAD AHAMED.A.R	Irsh	Irsh	Irsh	Irsh	Irsh
8	110118105009	MARIAM JEREEN.A.R	Mari	Mari	Mari	Mari	Mari
9	110118105011	MOHAMED FASHITH.S	Fash	Fash	Fash	Fash	Fash
10	110118105012	MOHAMED HAMEED ASKAR.S.A	Ask	Ask	Ask	Ask	Ask
11	110118105013	MOHAMED IMSATH	Ima	Ima	Ima	Ima	Ima
12	110118105014	MOHAMED ISAQ.H	Isaq	Isaq	Isaq	Isaq	Isaq
13	110118105015	MOHAMED SYED RIAZKHAN.S	RIAZ	RIAZ	RIAZ	RIAZ	RIAZ
14	110118105016	MOHAMMED AHMADULLAH	Ah	Ah	Ah	Ah	Ah
15	110118105017	MOHAMMED ASHIQ.S.A	Ash	Ash	Ash	Ash	Ash
16	110118105018	MOHAMMED MUSHRAFF SHARIFF.M	Sharif	Sharif	Sharif	Sharif	Sharif
17	110118105019	RAHAMATHULLA.A	Ram	Ram	Ram	Ram	Ram
18	110118105020	SATHAM HUSSAIN.N	Sath	Sath	Sath	Sath	Sath
19	110118105021	SEYED MOHAMED BUHARI	Saya	Saya	Saya	Saya	Saya
20	110118105022	SYED NISHATH AHAMED.N	Nish	Nish	Nish	Nish	Nish
21	110118105023	VAHAB KHAN.N	Vah	Vah	Vah	Vah	Vah
22	110118105024	YOGESH.V	Yog	Yog	Yog	Yog	Yog
23	110118105301	ASIF AHMED J	Asif	Asif	Asif	Asif	Asif
24	110118105302	KUMARESAN R	Ku	Ku	Ku	Ku	Ku
25	110118105303	MOHAMMED MANSOOR A	Mans	Mans	Mans	Mans	Mans
26	110118105304	RAJESH S	RA	RA	RA	RA	RA
27	110118105305	SADAKATHULLA M. A.R	Sad	Sad	Sad	Sad	Sad



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Certificate course on PLC
Academic year-2021-2022

BATCH: 2018-2022

YEAR: IV/VII

S.No	Reg. no	NAME	13.10.21	15.10.21	18.10.21	20.10.21	21.10.21
1	110118105001	AHAMED IJAZ.K	Ijaz	Ijaz	Ijaz	Ijaz	Ijaz
2	110118105003	FAIZ AHMED.H	FAI	FAI	FAI	FAI	FAI
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7	110118105008	IRSHAD AHAMED.A.R	IR	IR	IR	IR	IR
8	110118105009	MARIAM JEREEN.A.R	Jr	Jr	Jr	Jr	Jr
9	110118105011	MOHAMED FASHITH.S	Fa	Fa	Fa	Fa	Fa
10	110118105012	MOHAMED HAMEED ASKAR.S.A	ask	ask	ask	ask	ask
11	110118105013	MOHAMED IMSATH	Im	Im	Im	Im	Im
12	110118105014	MOHAMED ISAQ.H	IS	IS	IS	IS	IS
13	110118105015	MOHAMED SYED RIAZKHAN.S	RIAZ	RIAZ	RIAZ	RIAZ	RIAZ
14	110118105016	MOHAMMED AHMADULLAH	AH	AH	AH	AH	AH
15	110118105017	MOHAMMED ASHIQ.S.A	ASH	ASH	ASH	ASH	ASH
16	110118105018	MOHAMMED MUSHRAFF SHARIFF.M	Shari	Shari	Shari	Shari	Shari
17	110118105019	RAHAMATHULLA.A	Ra	Ra	Ra	Ra	Ra
18	110118105020	SATHAM HUSSAIN.N	Sa	Sa	Sa	Sa	Sa
19	110118105021	SEYED MOHAMED BUHARI	Sey	Sey	Sey	Sey	Sey
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27	110118105305	SADAKATHULLA M. A.R	Sa	Sa	Sa	Sa	Sa



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Certificate course on PLC
Academic year-2021-2022

BATCH: 2018-2022

YEAR: IV/VII

S.No	Reg. no	NAME	22.10.21	25.10.21	26.10.21	28.10.21	29.10.21
1	110118105001	AHAMED IJAZ.K	Ijaz	Ijaz	Ijaz	Ijaz	Ijaz
2	110118105003	FAIZ AHMED.H	FA	FA	FA	FA	FA
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15	110118105017	MOHAMMED ASHIQ.S.A	Ash	Ash	Ash	Ash	Ash
16	110118105018	MOHAMMED MUSHRAFF SHARIFF.M	Sh	Sh	Sh	Sh	Sh
17	110118105019	RAHAMATHULLA.A	Ra	Ra	Ra	Ra	Ra
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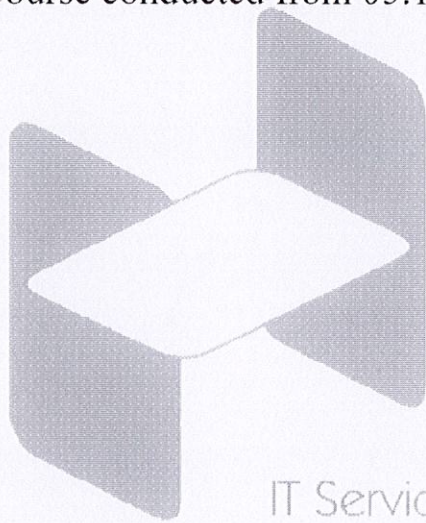
Mr.Kailas Menon
Manager,
HoistTechnologies



Date: 29.10.2021

TO WHOMSOEVER IT MAY CONCERN

This is to certify that **FAIZ AHMED.H** of Aalim Muhammed Salegh College of Engineering, Avadi-IAF has successfully completed “PLC” Course conducted from 05.10.2021 to 29.10.2021



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IT Services

Sincerely,

Nirav Narayanan,
HR - Team, Hoist Technologies

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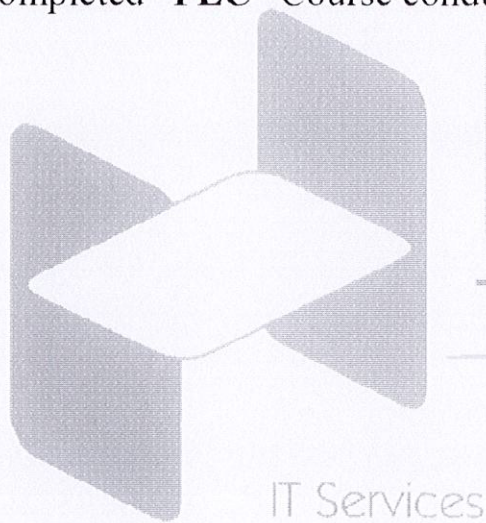
Mr.Kailas Menon
Manager,
HoistTechnologies



Date: 29.10.2021

TO WHOMSOEVER IT MAY CONCERN

This is to certify that **MOHAMMED AHMADULLAH** of Aalim Muhammed Salegh College of Engineering, Avadi-IAF has successfully completed “**PLC**” Course conducted from 05.10.2021 to 29.10.2021



Sincerely,

Nirav

Nirav Narayanan,

HR - Team, Hoist Technologies

[Handwritten Signature]

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AALIM MUHAMMED SALEGH
COLLEGE OF ENGINEERING**



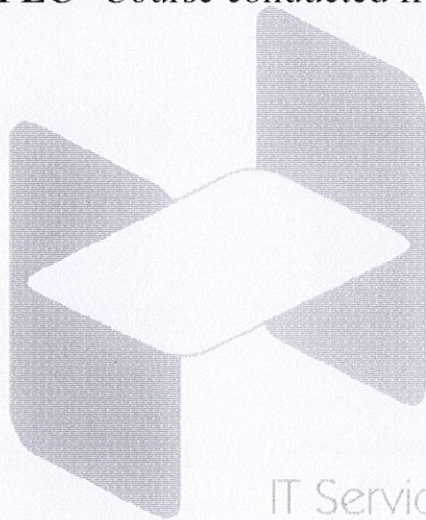
Mr.Kailas Menon
Manager,
HoistTechnologies



Date: 29.10.2021

TO WHOMSOEVER IT MAY CONCERN

This is to certify that **MOHAMED FASHITH.S** of Aalim Muhammed Salegh College of Engineering, Avadi-IAF has successfully completed “**PLC**” Course conducted from 05.10.2021 to 29.10.2021



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Sincerely,

Nirav Narayanan,
HR - Team, Hoist Technologies

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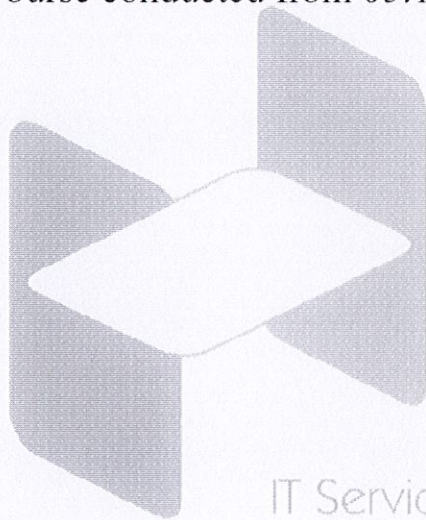
Mr.Kailas Menon
Manager,
HoistTechnologies



Date: 29.10.2021

TO WHOMSOEVER IT MAY CONCERN

This is to certify that **RAHAMATHULLA.A** of Aalim Muhammed Salegh College of Engineering, Avadi-IAF has successfully completed “**PLC**” Course conducted from 05.10.2021 to 29.10.2021



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Sincerely,

Nirav

Nirav Narayanan,

HR - Team, Hoist Technologies

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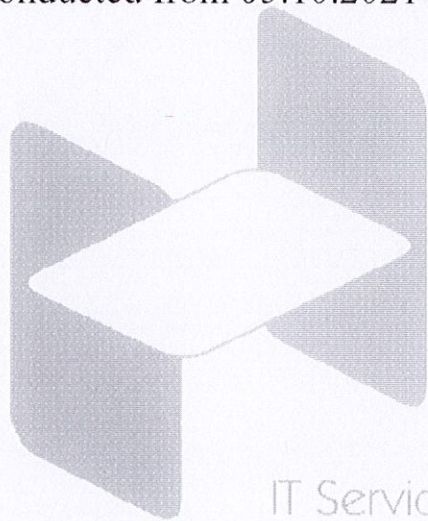
Mr.Kailas Menon
Manager,
HoistTechnologies



Date: 29.10.2021

TO WHOMSOEVER IT MAY CONCERN

This is to certify that **YOGESH.V** of Aalim Muhammed Salegh College of Engineering, Avadi-IAF has successfully completed “**PLC**” Course conducted from 05.10.2021 to 29.10.2021



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Sincerely,

Nirav

Nirav Narayanan,
HR - Team, Hoist Technologies

Nirav
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