Ref: SRCOE/EE/2023-24/Event-01   Date:- 21/02/24

Report of One week Workshop on PLC & SCADA

❖ **Title of Event:** <u>One week Workshop on PLC & SCADA</u>

• **Date:12th Feb 2024 to 17th Feb 2024**   **Time: 09:00am to 4:00pm**

• **Platform Name of Event:** offline Mode (SRCOE)

❖ **Name of Organizer:** Electrical Engg. Dept. (SRCOE).

❖ **Name of Speaker:** MR. Subham Sharma , Sofcon India Pvt.Ltd.

➢ **Objectives:**

• 1. To make the students understand the fundamentals of automation and various automation systems used in the industry, such as PLC.

• 2. To develop the architecture of SCADA, explaining each unit in detail.

• 3. To provide knowledge levels needed for PLC programming and operating effectively.

• 4. Design PLC based application by proper selection criteria, developing GUI and ladder Program.

• 5. Programming languages for PLC, Ladder diagram fundamentals, Rules for proper Construction of ladder.

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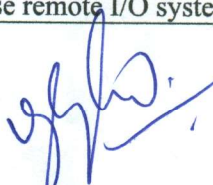Dept. Electrical Engineering
SRCOE Pune-412216
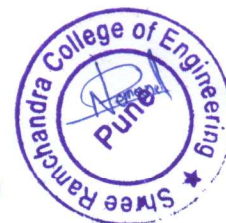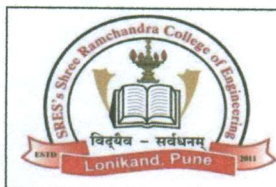
➤ **Topics Covered:**

1. Role of automation in Industries, benefits of automation, Necessity of PLC.

2. Programming languages for PLC, Ladder diagram fundamentals.

3. Analog PLC operation and PLC analog signal processing.

4. SCADA systems in operation and control of interconnected power system.

5. Open systems interconnection (OSI) Model, TCP/IP protocol, Modbus model, DNP3 protocol.

➤ **Detailed Summary:**
Day -1 (12-02-2024)

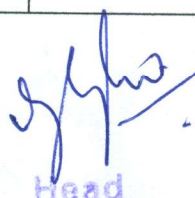| Sr.No.	Timing	Topic	Details
1	10-01:00pm	Industrial Automation And PLC	Recent advances in Industrial Automation Concept of Automation, Need & history of automation, Basics of PLC Introduction to PLC, pin diagrams, Block diagram of PLC, Detailed information of PLC. Allen Bradley & Rockwell Automation's Details Brief Description To Input/ Output Pins Of Micrologix-1000 Ladder Diagram Basics
2	01:00pm-2.00 pm	**Lunch Break**	
3	02:00pmTo 4.00 pm	PLC, Ladder diagram fundamentals.	Introduction To RSLogix Downloading a Ladder Program in PLC Using RSLinx. How To Take Input from Panel How To Give Output To Panel Running First PLC Application Design a PLC system from scratch, power Requirements, I/O types, networks Use remote I/O systems, .

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Day-2 (13-02-2024)

Sr.No.	Timing	Topic	Details
1	10-01:00pm	PLC, Ladder diagram	Downloading a Ladder Program in PLC Using RSLinx. Running First PLC Application Design a PLC system from scratch, power requirements, I/O types, networks
2	01:00pm-2.00 pm		**Lunch Break**
3	02:00pmTo 4.00 pm	Interlocking holding, Binary/memory Latch /Unlatch Timer & Counter	Developing ladder logic of given examples Practical's Ladder Diagram using Timer

Day-3 (14-02-2024)

Sr.No.	Timing	Topic	Details
1	10-01:00pm	PLC wiring with sensor or relay bond	PLC wiring with Hardware
2	01:00pm-2.00 pm		**Lunch Break**
3	02:00pmTo 4.00 pm	Program Control	Design and Configure networks, DH485, DH+ or Ethernet. Understand communications port parameters

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Day-4 (15-02-2024)

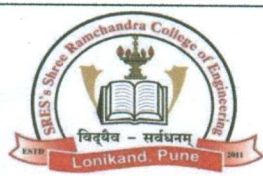| Sr.No.	Timing	Topic	Details
1	10-01:00pm	PLC Hardware & Horizontal movement , Vertical , Fill , Colour, Width,Height	Analog PLC operation and PLC analog signal processing.
2	01:00pm-2.00 pm	**Lunch Break**	
3	02:00pmTo 4.00 pm	SCADA	Creating a new SCADA application Creating Database of Tags Creating & editing graphic display with Animation. Creating Real-time & Historical Trends Alarms & Events Writing logic through script Troubleshooting and applications

Day-5 (16-02-2024)

Sr.No.	Timing	Topic	Details
1	10-01:00pm	Programming and Application	Developing ladder logic of given examples Practical's Use of RSLinx to extract data from PLC to Excel spreadsheet
2	01:00pm-2.00 pm	**Lunch Break**	
3	02:00pmTo 4.00 pm	PLC and SCADA Application & Security	Developing ladder logic of given examples Practical's Use of RSLinx to extract data from PLC to Excel spreadsheet

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Day-6 (17-02-2024)

Sr.No.	Timing	Topic	Details
1	10-01:00pm	Programming and Application	Developing ladder logic of given examples Practical's Use of RSLinx to extract data from PLC to Excel spreadsheet
2	01:00pm-2.00 pm	**Lunch Break**	
3	02:00pmTo 4.00 pm	Examples of PLC and SCADA	Examples of PLC and SCADA

Conclusion Remarks:

- Speaker Mr. Subham Sharma discussed opportunities in Automation Industry.

- Industrial Automation i.e. to "Automate Industry" is the basic need of almost every type of manufacturing and production unit today. Thus at the end students will become aware about the basic Knowledge of Industrial Automation, PLCs and their relevant module.

✓ **Attended by:** Participants (Including 06 Faculty)- 42+6=48

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SRES's
SHREE RAMCHANDRA COLLEGE OFENGINEERING
Lonikand, Pune – 412216
Department of Electrical Engineering

ABOUT SRCOE

Shree Ramchandra college of Engineering, Pune was established in the year 2011 approved by AICTE, New Delhi, affiliated to Savitribai Phule Pune University, Pune. Recently accredited by NAAC. The SRCOE has a good quality infrastructure. The Institute offers undergraduate programs namely Civil, Mechanical, Computer, Electrical, E&TC and also offers Post Graduation programs in Mechanical. The institute has dynamic, dedicated, experienced, qualified and result - oriented teaching faculty, Well-equipped laboratories, Workshop, and digital classroom.

ABOUT ELECTRICAL ENGINEERING DEPARTMENT

Electrical Engineering is one of the premium branch of Shree Ramchandra College of Engineering. A sustained growth with academic brilliance is seen in our department with highly supportive, academically distinctive and experienced faculty, disciplined students and service oriented supporting staff. In our department every care and effort is taken to provide quality education to the students, so that they are suitable for the current needs of Industry and society as a whole.

CHIEF PATRON

Hon. Shri. Maruti R. Bhumkar,
President, SRES Pune.

CONVENER

Prof. Dr. K.Sujatha
Principal, SRCOE Pune.

ORGANIZING SECRETARY

Prof. V.M.V.Rao
(HOD, Department of Electrical Engineering)

ORGANIZING COMMITTEE

Prof. J. Purohit   Prof. P.R.. Patil
Prof. D.K.Nemane   Prof. Sayali.S.Gote
Prof.S. Kolage

FOR REGISTRATION CONTACT

Co-Coordinator
Prof. J. Purohit
(Asst. Prof. Electrical Engg Dept.) Email:
jyotimayee.purohit@gmail.com
Contact no. (8793956520)

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Lonikand, Pune – 412216

[ACCREDITED BY NAAC B++]

One Week workshop on
"PLC & SCADA"
On 12th to 17th Feb. 2024

Organized by

Department of Electrical Engineering
Pune - Nagar Road, Behind BJS College,
Wagholi, Pune, Maharashtra 412216
Cell No. +91 7276317328
Email ID: vsrao.ee@gmail.com
www.srespune.org

RegistrationForm
One Week workshop on,
"PLC & SCADA"
(12th to 17th Feb. 2024)

Name:-----------------------------------
Department:-----------------------------
Designation:----------------------------
Institute Name and code:----------------

Address:--------------------------------
Email ID:-------------------------------
Mobile number:--------------------------

Signature of Applicant

Signature ofPrincipal

Institute Seal

VENUE

Building " A" Computer Center Lab.
Ground floor

EXPERT MEMBERS

Sofcon India Pvt. Ltd. Pune

PARTICIPANTS

The workshop is addressed to faculty of Engineering colleges,Faculty, Research Scholars, PG& UG Students of Engineering colleges

TOPICS TO BE COVERD

PLC

- Introduction plc
- Logic gate
- Interlocking and holding
- Binary/memory
- Latch /Unlatch
- Timer
- Counter
- Compare / Math /Move
- Program Control
- PLC wiring with sensor or relay bond

SCADA

- Introduction Of Scada
- Tag of scada
- Properties
  - Horizontal movement
  - Vertical
  - Fill
  - Colour
  - Width
  - Height
- Trends
- Security
- Recipe
- PLC and SCADA communication

PLC& SCADA Workshop Brochure

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One Week Workshop On PLC &SCADA from 12th Feb. 2024 to 17th Feb. 2024
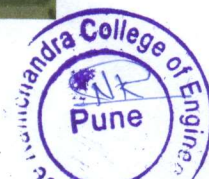
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Dept. Electrical Engineering

The Faculty and students of the Department of Electrical Engg. With Principal and Session chairperson at valedictory session of PLC & SCADA workshop
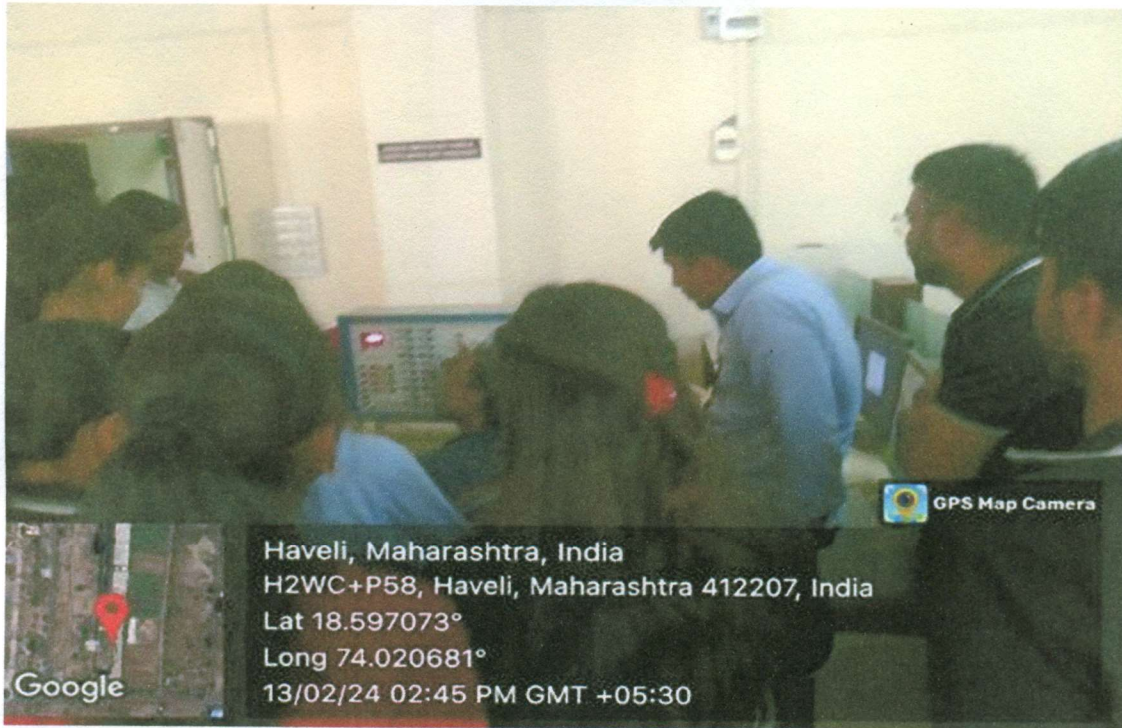

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H2WC+P58, Haveli, Maharashtra 412207, India
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Long 74.020686°
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PLC Workshop session with Guest and Student

Prof.Nemane D.K.

Prepared by

Prof. V.M.V Rao

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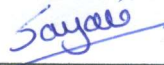
Following Teaching staff of Electrical Department Have attended the Workshop on PLC & SCADA

SR.No.	Name of faculty Member	Sign
1	Prof. Venkesteshwara Rao	
2	Prof.Mrs. Patil P.R.	
3	Prof. Mrs. Jyotirmayi Purohit	
4	Prof. Dnyaneshwar Nemane	
5	Prof.Mrs. Sayali Gote	
6	Prof. Mrs. Snehal Kolpe	