

Report of One Week Workshop on:

Title: Industrial Automation Product (Allen Bradley PLC system & SCADA software)

Resource person: Mr. Ramesh Wakchaure; Sr. Project Engg, Prolific Systems & Tech. Pvt. Ltd. Pune.

Coordinator : Mr. Tatugade A. A. [Asst. Prof. EXTC. Dept. R.M.C.E.T. Ambav.]

About workshop:

The one week intensive workshop on **Industrial automation product (Allen Bradley PLC system & SCADA software)** has been conducted by Prolific Systems & Tech. Pvt. Ltd. Pune to involve students in a cohesive drive with the academia and industry towards excellence in automation product technology. This workshop is an attempt to cover material relevant to giving students necessary knowledge and skill set to appreciate the rapid changing scenario in automation systems and take advantage of this in their future career. Practical/laboratory sessions are held, which will supplement the knowledge disseminated during the lecture sessions with adequate hands on experience.

Workshops are instructor-lead, lab-intensive courses focused on the practical application of technologies through the facilitation of a project-related lab. Most parts of workshop are designed around 80% lab-time.

Duration

It's a five day workshop. From 12th July 2016 to 16th July 2015. In this five-day course, student gained valuable hands-on experience.

How many students have attended this workshop?

77.

Software Tools

Wonderware's in Touch

Skills Gained

After completing this workshop, students are able to:

- Create and design new automation model by using PLC programming logic.
- Interface external peripheral by using SCADA software.
- Troubleshooting and fault diagnostics of PLC .

Course Contents

1) Programmable Logic Controller (PLC)

– Allen Bradley PLC

Topics Covered

- ❖ Role of PLC in automation
- ❖ Introduction to PLC hardware
- ❖ Architectural Evolution of PLC
- ❖ PLC Fundamentals - (Block diagram of PLC's)
- ❖ Detail information about PLC components
- ❖ Various ranges available in PLCs
- ❖ Types of Inputs & outputs
- ❖ Source Sink Concept in PLC
- ❖ Concept of flags
- ❖ Scan cycle execution

- Advanced instructions
- File handling
- Comment functions
- Master control /set /reset function
- ❖ Upload, download, Monitoring of programs
- ❖ Forcing I/P & O/P
- ❖ Monitoring / Modifying data table values
- ❖ Troubleshooting and fault diagnostics of PLC

Practical Exposure on PLC

- ❖ Introduction to PLC programming software
- ❖ Addressing concepts
- ❖ Introduction to bit, byte & word concept
- ❖ Programming instructions arithmetic and logical
- Load /and /or/out / and Read / Write
- Compare / Add / Sub /And /Or – Blocks
- Leading edge / trailing edge instructions
- MOVE block application
- Timer Blocks programming
- Counter Block programming

2) Wonderware's In Touch (SCADA)

- Creating a new SCADA application
- Creating Database of Tags
- Creating & editing graphic display with animation.
- Creating Real-time & Historical Trends
- Creating Alarms & Events
- Writing logic through script
- Connectivity with PLC
- Connectivity between software (Excel)
- Troubleshooting the application

Photos: - 1. Inauguration function



2. Resource person: Mr. Ramesh Wakchaure; Sr. Project Engg, Prolific Systems & Tech. Pvt. Ltd. Pune and his Team.



3. Practical sessions: -

