On-line Course Prospectus

ISO 9001-2015 Certified

Industrial Automation with PLC & SCADA

**Starting Date: 14th December - 2020
(4 weeks, 1Hour Daily)**

Course Description

This online course introduces Programmable Logic Controllers (PLC), Field level Instrumentation and SCADA/HMI Systems used for Industrial Automation. The participants will get appropriate knowledge and exposure to configuration of Industrial Controllers and development of application programs using IEC-61131-3 PLC languages. Also covers Interfacing with SCADA/HMI systems used for remote monitoring & control of industrial process units and machines. The Course is planned with instructor led live sessions of lectures and demonstrations.

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Online Course Prospectus

Course Name: Industrial Automation with PLC & SCADA

Course Code: IAD101

Duration: 4 weeks / 35 Hours

Monday – Friday, Daily 1 Hour online Class (20 Hours) + Home Assignment (15 Hours)

Online class Timing: 4:00 PM to 5:00 PM

Course Fee: Rs. 4,500/- *(Includes GST + KFC)*

Starting Date: 14th December 2020

Coordinator: Shri. Arumugam J, Principal Technical Officer

Mob: 9080515215, cig@calicut.nielit.in

Who can attend? / Qualification:

a. Students pursuing Engineering/ Diploma /MSc with Electrical/ EEE/ Electronics/ Electronics and communication/ Instrumentation and Control/ Instrumentation / Applied Electronics/ Chemical Engg/ Mechatronics / Computer Science background and other branches who would like to develop competency in area of Industrial Automation systems
b. Professionals working in Industry
c. Research students.
d. Teaching professionals& faculties

Course Content:

S. No.	Module Title	Duration* (4 weeks, Monday - Friday)		
		Theory (04:00PM to 05:00 PM)	Lab Assignments (@ Home)	Total
1	Industrial Field Instrumentation & Controllers	7	3	10
2	Programmable Logic Controllers(PLC)	7	7	14
3	SCADA/HMI	6	5	11
	Total Duration (Hours)	20	15	35

* Duration indicate the average time candidates should spent in each topic.

1. *Industrial Field Instrumentation & Controllers: (7 Hours)*
   - Industrial Automation System structure, functional levels and instrumentation signal levels (1h)
   - Industrial field instruments - Selection for measuring common process variables (3h)
   - Industrial Control Valves, Signal conditioners, and intelligent transmitters (1h)
   - Industrial Control loops (2h)

2. *Programmable Logic Controllers (PLC): (7 Hours)*
   - Industrial Controllers - PLC basics and architectures (1h)
   - PLC - IEC 61131-3 Programming Languages & Visualization / HMI (3h)
          (ABB CodeSys 2.9 software and instruction sets)
   - Structured Programming (Functions & Function blocks) (1h)
   - PLC Hardware - CPU and Discrete Input/ Output Cards (1h)
   - Analog Input/ Output Cards and control loops (1h)

3. *SCADA /HMI: (6 Hours)*
   (Supervisory Control and Data Acquisition / Human Machine Interface)
   Introduction to SCADA (1h)
   - NI - LabVIEW DSC (Data logging & Supervisory Control) Software (3h)
          (LabVIEW Basics (Front panel/Block Diagram, Loops etc…)
   - SCADA - Network Communications & Communication with RTUs (1h)
   - OPC Server (OLE for Process Control)/PLC (RTU) and SCADA Interface Configuration concepts (1h)

4. *Home assignments & Exercises – 15 Hours*
   - Complete the given assignments and submit through email.

Prerequisite (optional):

Basic knowledge of electronics and computers

Download and install CODESYS 2.3 free version

Download and install NI-LabVIEW 2020 student version

Fee and important dates:

Course Fee	Rs. 4,500/- *(Including GST+KFC)*
Last date for registration & payment	13th December 2020
Sharing of online Link / passwords & other details	13th December 2020

Faculty Profile:

All faculty members involved in the course are having post graduate degrees in engineering with several years of experience in the industrial Automation field.

Course Coordinator:

Arumugam J

Principal Technical Officer

9080515215 / 9074681261, 0495-2287266(O)

e-mail: cig@calicut.nielit.in

Certificate:

e-Certificate of participation will be issued to all candidates who attend the online classes and complete the given online assignments successfully.

Terms and Conditions:

1. In case any registered candidate could not attend the online session due to technical issue at their side there will not be any refund of the course fee and the sessions will not be repeated.

2. In case the online course is cancelled /postponed due to some technical issue at NIELIT side and new date is not convenient to the candidate, our liability islimited to the refund of the course fee and NIELIT shall not be responsible for any consequential damages.

For more details about our institution and facilities visit us

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Ministry of Electronics & Information Technology,
Govt. of India

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