

COURSE PROSPECTUS**Name of the Group: Control & Instrumentation****Name of the Course: PG Diploma in Industrial Automation System Design****Course Code: PC100****Starting Date: 23rd September 2019****Duration: 24 Weeks (720 hours)****Course Coordinator:** Sasidharan P T, S/ E 'E',

PC100 Coordinator

Industrial Automation (C&I Group)

NIELIT Calicut - 673601

0495-2287266 - Ext 247/ 215

Mob: 9446301151

pc100@calicut.nielit.in

Preamble: Stiff competition, higher quality standards and growing concerns of safety & environmental damage have pushed the Industrial sector to adapt state-of-the-art Automation Techniques for effective utilization of resources and optimized performance of the process plants. Recent trend of merging control systems associated with both factory and process automation demands knowledge from diverse fields. Automation applications span plant automation, discrete and batch process control, embedded machine control and manufacturing production line automation. The industrial automation applications include automation of time critical systems that demand precise real time readings and control. Qualified automation engineers are needed to meet these requirements of designing appropriate automation systems. But, one need to have knowledge of diversified fields such as PC/ PLC based Control, Instrumentation, H/W, S/W, Networking, Industrial AC Drives, Machine Vision, DCS, SCADA/HMI, High speed data acquisition, RTOS etc., to become a successful automation engineer.

Objective of the Course: This course is aimed at making an Engineer with appropriate experience; a qualified designer of Industrial automation systems with the use of PLCs, PACs, Industrial Field Instruments, Industrial PCs, SCADA/HMI, Data-acquisition boards, Machine vision, robots, Microprocessor based instruments, and related Software. The course also includes an industrial oriented project work during which the student will be working on specific assignments of his/her choice.

Outcome of the Course: Qualified automation engineers to meet the requirements of designing appropriate industrial automation systems

Course Structure:

The course consists of the following modules as given in the table below		
PC100: PG Diploma in Industrial Automation System Design (24 weeks)		
Sub Modules		Duration
Core Modules	Measurements with Industrial Field Instruments Data Acquisition Systems, Process Plant Control & Automation System Design Programmable Automation Controllers (PAC) Automation System Integration & Engineering Concepts	24 Weeks
	PLC & PID Controllers, Industrial Data Communications	
	Industrial Drives & Robotics	
	SCADA/HMI System Development	
	Distributed Control System (DCS)	
	Project Work	

Other Contents

a. **Course Fees:**

General Candidates: Course fee is Rs. 70,000/- + GST at actuals

SC/ST Candidates: Tuition Fees are waived for SC/ST students admitted under SCSP/TSP. However they are required to remit an amount of **Rs. 8,260/- as Advance caution/ Security deposit**. This amount will be considered as caution/ security deposit and will be refunded after successful completion of the course. If the student fails to complete the course successfully this amount along with any other caution/security deposits by the student will be forfeited.

b. **Registration Fee:** An amount of Rs.1000/- (including GST)(nonrefundable) should be paid at the time of registering for the course.

This fee shall be considered as part of course fee, if the student joins the course. If a student register and pay for more than one course and join for any one course, all such amount will be adjusted against the course fee payable.

If the student does not join for the registered course / any of the registered courses, fee paid shall be forfeited.

For SC/ST candidates, the registration fee is Rs.500/- and will be considered as part of caution/security deposit and will be refunded after successful completion of the course. If the candidate does not join or fails to complete the course the amount will be forfeited

However above the registration fee shall be refunded on few special cases as given below

- Course postponed and new date is not convenient for the student
- Course cancelled in advance, well before the admission date

c. **Course Fee Installment Structure:**

Students can pay the full fees of Rs. 82,600/- (70,000 + GST) in advance or as installments as given below

Fees	*Amount for General Candidates	Amount for SC/ST Candidates. (considered as caution/security deposit)	#Due Date (on or before)
Registration Fee	Rs.1000/-	Rs.500/-	During Registration
**Advance Fee	Rs.10,000	Rs. 7760/-	16/09/2019
1 st Installment	Rs.31,000/-	Nil	23/09/2019
2 nd Installment	Rs.40,600/-	Nil	06/12/2019
Total Fee	Rs. 82,600/-	Rs. 8,260/-(refundable after successful completion of course)	-

*Above fees is inclusive *GST@actuals(18%)* and revision if any will be applicable at the time of payment.

Fine will be applicable to late fee payment.

** Advance fee - After publication of first selection list, the students in the first selection list have to pay the Advance Deposit within the due date to take the provisional admission. Students in the additional selection list should pay both Advance and First installment fee together on or before counseling day

d. Eligibility: ME /M.Tech or BE /B.Tech in Electrical/ Electronics/Instrumentation/ Chemical Engineering/ Applied Electronics and Instrumentation/ Instrumentation & Control/ Electronics & Communication/ Mechatronics / Computer Science. Final year students of above disciplines also may apply.

On the date of counseling/ admission, **final year students** have to produce the originals of course completion certificate & mark lists up to and including the last semester/ year examination. **Only those candidates**

who have passed all the semesters/ year examinations of their qualifying degree on or before the date of counseling are eligible for admission.

The PG Diploma certificates shall be issued to only those who produce the original or provisional degree certificate, the original mark lists and complete all the modules of PC100 program successfully as per the course requirements.

- e. Number of Seats : 50
- f. Selection of candidates: Selection of candidates who have the requisite qualifying degree will be based on the percentage of marks in their qualifying degree subject to eligibility and availability of seats. Selection of candidates who have completed the course but expecting the results shall be based on the aggregate percentage of marks mentioned in their final mark list and on the availability of seats. In case the aggregate percentage of marks is not given in the final mark list, the sum of marks from the first to last for all the semesters/ years shall be considered as the aggregate marks.
The selection lists are prepared based on the details given by the applicant at the time of submitting the application.

The admission to the course shall be based on the following criteria:

The applicants should have the requisite eligibility criteria as mentioned under the heading "Eligibility". **In the case of final year students, they must have passed all the semesters/ year examinations of their qualifying degree at the time of counseling.** Selection list of students will be prepared and published in our website as follows.

First selection list will be prepared based on the applications received on or before 7th September 2019. The **additional selection list** will be prepared, if there are vacant seats, based on the applications received on or before 16th September 2019 and excluding the applicants included in the first selection list

First selection list:

The first selection list of applicants will be finalized and published in our website on 9th September 2019 (<http://nielit.gov.in/calicut>). After that seats will be available only against any vacancy that arises and will be published in the additional selection list.

The students have to verify their selection to the program from our website. **No separate call letters will be sent to the students for admission.**

The selected students in the first selection list have to take **provisional admission on or before 16th September 2019, by paying the advance fee Rs.10, 000/- (The mode of payment and how to submit proof of payment will be given in the respective selection lists).** Their admission shall be confirmed only after verifying their original certificates on the counseling date (23/09/2019).

Additional selection list:

The additional selection list of students will be finalized and published in our website on 16th September 2019, based on the vacancy that arises from the first selection list.

The students in the **additional list** have to come directly to the centre on the date of counseling for admission. Their admission shall be confirmed only after verifying their original certificates/ mark lists and after payment of the Advance & first instalment of fees, on the counseling date (23/09/2019).

- g. Test/Interview : *Not Applicable*
- h. Counseling/Admission : 23rd September 2019 @ NIELIT Calicut, 9:30 AM
- i. Important Dates :

Last date for receiving completed application forms	First selection list will be prepared based on the applications received on or before 7 th September 2019. The additional selection list will be prepared based on the applications received on or before 16 th September 2019 and excluding the applicants included in the first selection list.
Publication of Firstselection list in our website	9th September 2019 (Candidates must verify their selection from our web site only. No other individual intimation will be send to the candidates separately)
Last date for taking provisional admission by paying the	On or before 16th September 2019

Advance fees for applicants in the First selection list	
Publication of additional selection list in our website (if there are vacant seats)	16th September 2019 (Candidates must verify their selection from our web site only) No other individual intimation will be send to the candidates separately
Counseling date	23 rd September 2019
Payment of First instalment fees for applicants in first selection list	On 23 rd September 2019
Payment of Advance & First instalment fees for applicants in Additional selection list	On 23 rd September 2019
Course commencement date	On 24 th September 2019
Payment of Second instalment fees	On or before 6 th December 2019

- j. Course Timings : The classes and labs are from 9:30 AM to 12:30 PM and 2:00 PM to 5.25 PM, Monday to Friday
- k. Placement: Usually students contact companies directly by sending resumes in response to job advertisements and get placed. Partial list of our past students, who joined various companies through their own competencies are [given in Annexure I](#). It is observed that Industrial Automation companies generally prefer to recruit male candidates. The placement assistance provided is the following:
- We will be forwarding the collected resumes of students to companies, who approach us for their manpower requirements,
 - We can provide recommendation letters to specific companies of your interest mentioning your performance (percentage of marks/grades) in the course
- l. Lab Facilities:
- Industrial process controllers& Smart Field instruments with HART/ Foundation Fieldbus interface
PLCs (Allen Bradley, SIEMENS & ABB) - SIEMENS SIMATIC S7 controllers (CPU 412-2PN, CPU 314), SIEMENS IM151-1 High Feature, Siemens TP 177B, SIMATIC STEP 7 Professional Software, S7-PLCSIM Allen Bradley SLC500 series (SLC5/02 & SLC5/04), RS Logix 500 Software, Emulate500 Software, AB Compact Logix Series PLC (1769 L23), RS Logix 5000 Software
ABB AC500 PLC System, PM 581-ETH CPU, ABB Software PS501-PROG Control Builder

Distributed Control Systems (DCS) - ABB Freelance 800F, S800 I/O modules and interfaces

FOUNDATION Fieldbus, Profibus, Profinet, DH 485, HART based Devices

Intellution iFIX SCADA Software, NI LabVIEW SCADA module & SCADA Hardware

NI LabVIEW Professional Development System (Academic License),

NI LabVIEW GPIB and Foundation Fieldbus Interface,

NI LabVIEW IMAQ Vision System, FPGA Module

NI Data acquisition systems with PCI Interface, Programmable Automation Controller (PAC) - Ethernet Fieldpoint I/O and NI Compact RIO

Training Plants set up with real sized industrial instruments and controlled through PLC and PC

m. Course Contents : PC100 [Course Syllabus / Contents Link](#)

[For General Terms and Conditions – Applicable to all courses](#)