**PG Diploma in Industrial Automation System Design**

**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.

**Learning Outcomes:**
Qualified automation engineers to meet the requirements of designing appropriate industrial automation systems.

**Expected Job Roles:**
Industrial Automation Design Engineer

**Duration of the Course (in hours)** 720 hrs /24 Weeks

**Appr. Fees (INR):** Rs.68,000/- (Service Tax Extra)

**Minimum eligibility criteria and prerequisites if any**


b. Candidates who have appeared in the qualifying examination and awaiting results may also apply

**Outline of the Course**

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<th>S. No</th>
<th>Topic</th>
<th>Minimum No. of Hours</th>
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| 1. | Measurements with Industrial Field Instruments  
Data Acquisition Systems  
Process Plant Control & Automation System Design  
Programmable Automation Controllers (PAC)  
Automation System Integration & Engineering Concepts | 600 |
| 2. | PLC & PID Controllers  
Industrial Data Communications | |
| 3. | Industrial Drives & Robotics | |
| 4. | SCADA/HMI System Development | |
| 5. | Distributed Control System (DCS) | |
| 6. | Project Work | 120 |

Theory/ Lecture Hours: 300  
Practical/ Tutorial Lecture Hours: 300  
Total Hours: 720
Short Term Courses – NIELIT

Books recommended for reference and reading:

REFERENCES

1. Distributed computer control for Industrial Automation, by: Popovic & Bhatkar, Dekker.
7. Sensors, Transducers & LabVIEW an application approach to learning virtual instrumentation; by: Barry E. Paton; Prentice Hall PTR.
12. Advances in Distributed Sensor Technology; by: S.S.Iyengar, L.Prasad, Hla Min; Prentice Hall PTR
16. Learning With LabVIEW 7 Express by: Bishop, Robert
17. LabVIEW: Advanced Programming Techniques by Bitter, Rick
18. LabVIEW Signal Processing by: Chugani, Mahesh
19. LabVIEW Digital Signal Processing And Digital Communication by: Clark, Cory
21. Image Acquisition And Processing With LabVIEW by: Relf, Christopher
22. Introduction to Programmable Logic Controllers, Dunning, Gary
24. Programmable Controllers, Theory and Implementation, L. A. Bryan
25. Manuals of PLC (ABB, AB and Siemens), DCA and SCADA

In addition manufacturer’s device data sheets and application notes are to be referred to get practical application oriented information.

Group Code: CADD  Group Name: Autocad/ Industrial Automation

Course Code: PG01  Course Name: PG Diploma in Industrial Automation System Design