About Electronics & ICT Academy at IIITDMJ (MP)

Department of Electronics and Information Technology, Government of India has instituted four Electronics and ICT Academies with one academy at IIITDM Jabalpur with the primary objective of preparing manpower for two important missions - 'Digital India' and 'Make in India'. The Academy aims at scalable training programmes in niche areas of electronics and ICT for the development of required knowledge base, skills and tools to unleash the talent of Indian population. IIITM Gwalior, MANIT Bhopal, and IIT Indore are partners in organizing specialized courses for faculty, students and unemployed graduates under the Academy. In addition, the Academy will conduct customized training programmes for corporate sector and research promotion workshops for faculty teaching in colleges. The Academy is envisioned to become a central hub of activities on training, research, consultancy work and entrepreneurship programmes.

About PDPM IIITDM Jabalpur

IIITDM Jabalpur was established in 2005 with a focus on education and research in IT enabled Design and Manufacturing. Since its inception, PDPM IIITDM Jabalpur has been playing a vital role in producing quality human resources for contribution in India's mission of inclusive and sustainable growth. The Institute offers undergraduate, post graduate and PhD programmes in Computer Science and Engineering, Electronics and Communication Engineering, Mechanical Engineering, Design and PhD programmes in Mathematics and Physics. Under IIIT act, the Institute has been declared an Institute of National Importance in January 2015. The Institute campus is being developed on 250 acres of land close to Dumna Airport, Jabalpur. The Institute is 10 kms from the main railway station and 5.5 kms from Dumna airport, Jabalpur.

Faculty Development Programme on PLC and Industrial Automation

Who can attend? Programmes are open to faculty, master level students and research scholars from all the colleges and universities in the states of M.P., Chhattisgarh, Maharashtra, Gujarat and Rajasthan. Industry personnel working in the concerned/allied discipline may also apply.

How to apply?

Online: The participants may log on to the website ict.iiitdmj.ac.in and fill up the application form and apply online clearly mentioning name of the course.

By Email: Scanned copy of the filled application form duly endorsed by the forwarding authority to be mailed at academyiiitdmj@gmail.com. Application format may be downloaded from the website (Also given in this brochure).

Print out of the filled application form duly endorsed by the forwarding authority and a demand draft in favour of 'Electronics and ICT Academy, IIITDMJ' payable at Jabalpur may be brought at the time of on-site registration on December 6, 2015. No Travelling Allowance will be paid by the Academy.

Important Dates:

Last Date of Online Registration: Nov. 15, 2015

Spot Registration also available if seats are available.

Course Dates: December 06-13, 2015

Registration Fee:

Rs. 2000/- (Course material + lunch inclusive)

Accommodation charges Rs. 2000/- (including breakfast and dinner)

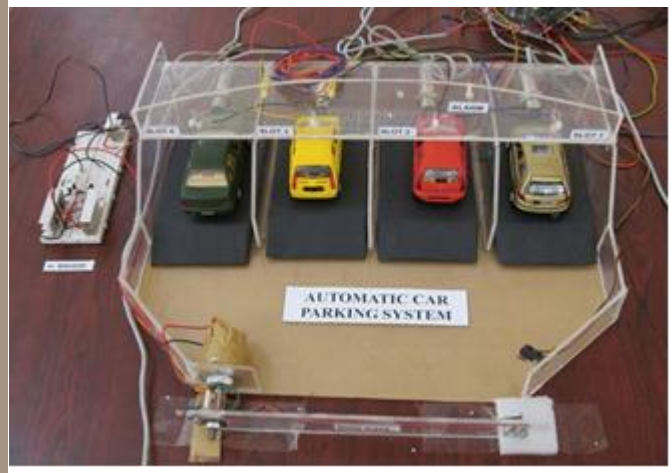
Course Coordinator

Tanuja Sheorey
Email: tanush@iiitdmj.ac.in

Website: ict.iiitdmj.ac.in

PLC AND INDUSTRIAL AUTOMATION

December 06-13, 2015



Faculty Development Programme Under Electronics and ICT Academy

An Initiative of Department of

Electronics and Information Technology, Government of India

Electronics and ICT Academy
PDPM Indian Institute of Information Technology, Design and Manufacturing, Jabalpur,
Dumna Airport Road,
Jabalpur 482005

Building Human Resource For Digital India

EI&ICT Academy
IIITDMJ

Faculty Development Programme on PLC and Industrial Automation December 06-13, 2015

Introduction

A programmable logic controller (PLC) is a specialized computer used to control machines and processes. It uses a programmable memory to store instructions and execute specific functions that include on/off control, timing, counting, sequencing, arithmetic and data handling. Program logic is made in ladder diagram. PLC provides flexibility. It is easier to create and modify a program in a PLC than to wire and rewire a circuit. In today's competitive environment where changes in production line and assembly line are very fast, this feature of PLC helps in achieving the target on time. Another important feature is to be able to communicate with other computers and perform supervisory control.

Objective

Objective of the course is to provide participants feel of industrial automation system using PLC. Each laboratory session would provide hand-on learning through hardware-in-loop simulation, first basics, then simple control systems and finally complete industrial automation solutions.

Course Contents

Module I: Basics of PLC

Introduction, PLC Architecture, input-output card, scan time, Analog and digital I/O, program scan.

Module II: PLC Programming

Introduction to ladder diagram, structure of PLC program, elements of ladder diagram, contacts (NO, NC), coil functions (set, reset, contactor), timer (on-delay, off-delay, pulse), counter, marker, execution of PLC program.

Module III: Learning to make ladder diagram

Latching circuits, Use of logic gates, Simple examples on industrial control applications with timers and counters.

Module IV: Input and Output Devices

Manually operated switches, Push buttons (NO, NC, momentary, maintained), limit switches, sensors, LED, solenoid operated actuators, alarm, motors.

Module V: Industrial Applications
Simple conveyor based inspection and sorting, Stamping Process, Shear Press, Automatic inventory control, motor control, Automatic car washing, Automated parking facility, Bottle filling, etc.
Note: Each application requires detailed study of control requirement, preparation of flow chart, algorithm and finally ladder diagram.

Module VI: Sequential Flow Chart

SFC Structure, Main elements, steps, transition, actions, timing diagram, divergence, convergence, OR, AND. Learning to draw SFC for industrial applications. Advantages.

Laboratory Sessions: Each module is associated with either simulation based lab or implementation on hardware.

Schedule
Each day there will be two lectures of one and half hours, followed by lab session of three hours. A total of 21 Lectures and 8 lab sessions (3 hours each).

Contact Us

Course Coordinator,
Data Structures and Algorithms using C
Electronics and ICT Academy
PDPM Indian Institute of Information Technology,
Design and Manufacturing, Jabalpur,
Dumna Airport Road, Jabalpur 482005

academyiiitdmj@gmail.com

Website: ict.iiitdmj.ac.in

Application for Registration

Name of the Course / Programme:

Name of the Applicant (first, last):
Gender:

Designation:

Name and Postal Address of the Organization/Institute/college:

City/town: *Email:*

Alternate email (if any)

Phone Number:

Mobile Number:

Do you need accommodation? Yes/No. If Yes

Date and time of arrival

Date and time of departure

Note: Accommodation and meal facility will be available only from the evening of December 5 to the morning of December 14, 2015.

Name and designation of the authority who forwarded the application /gave approval for attending the course)

Details of the Demand Draft: Number, Date, Issuing Bank, payable at

Signature of the Applicant

I hereby agree to relieve Mr./ Ms./ Dr. .....
In case she/he is selected to attend the programme.

Signature and Seal of the Forwarding Authority