


**Certificate Course in Electrical and Electronics
Engineering with Specialization
“PLC PROGRAMMING & ITS APPLICATION”
Held On
28th February to 6th March 2019**



**Department of Electrical & Electronics Engineering,
KG Reddy College of Engineering & Technology**
Chilkur(Village), Moinabad(Mandal), Hyderabad RR Dist-501504


Course coordinator


Principal

Principal
KG Reddy College of Engineering & Technology
Chilkur (V) Moinabad (M)
RR Dist-501504

SUMMARY REPORT OF PLC PROGRAMMING & ITS APPLICATION

About Course

The certificate course on PLC programming and its applications is concluded its work successfully by department of electrical and electronics engineering (EEE) in KG ready college of Engineering and technology (KGR CET), Hyderabad, Telangana. This course is a forum to bring together students to discuss innovative ideas and diverse topics of this course on next generation of information technologies. Department has taken a new step for students to improve the quality of study through this course and become most wide scale, extensive, spectacular event in electrical and electronics engineering. The six days course was held in two locations of the department (a) Department E-learning room for theory class and (b) Department laboratory for practical class.

In the most basic terms, a programmable logic controller (PLC) is a computer with a microprocessor but has no keyboard, mouse or monitor. It is essentially built to withstand very harsh industrial environments.

It is a distinctive form of computer device designed for use in industrial control systems. It has a robust construction and unique functional features such as sequential control, ease of programming, timers and counters, easy-to-use hardware and reliable controlling capabilities.

Scope of the Course

The logic controllers are often tasked to control and monitor a very large number of sensors and actuators. They are therefore different from other regular computer systems in their extensive I/O (input/output) arrangements. It is designed to be enormously robust, so it could withstand harsh industrial environments such as extreme temperatures, vigorous vibrations, humidity and electrical noise. In addition to being used as a special-purpose digital computer, the PLC can be used in other control-system areas and industries. This explains why PLCs are often referred to as industrial PCs.

Once programmed, the PLC will perform a sequence of events triggered by stimuli referred to as inputs. It receives these stimuli through delayed actions such as counted occurrences or time delays.

It covered significant recent developments in the field, both of a foundational and applicable character of this course. An important feature of this course is very useful in service carrier. The selected topics of this course helped to make project work. This permits also a rapid and broad dissemination of project and research work.

Objectives of the course

The objective of the course is to bring together experts from academic institute and training institute for sharing of knowledge, expertise and experience in emerging trends related to the computer science and engineering topics.

The Programmable Logic Controllers - Design Training Courses are proposed to give you all around learning.

It introduced the advances in the field of industry operation and control. The software design aspect of the circuits are introduced to students.

As a result many keynote, tutorial and practical sessions have been prepared in accordance with course scope to discuss the challenges, opportunities and problems of PLC design in various fields of Electrical and Electronics Engineering.

OUTPUT:

This course was not only shared the knowledge among students but also tied up with expert for upcoming course.

The main outputs are mentioned below:

- ❖ The expert shared his knowledge among students.
- ❖ Students learned from this course and tried to use the techniques for their project as well as research work.
- ❖ Students interact with expert to gain their additional knowledge for future research work.
- ❖ Students found new ideas, concept, knowledge on technology, different application of methodologies from different session of course.
- ❖ Department tried to do their collaborative research work on this course with university as well as industries.
- ❖ It was created different domains of research field from this course for possible topic of computer science engineering.
- ❖ It helped to make industrial project.
- ❖ It helped to student for campus recruitment.

Summary of Participants

- (a) Number of students attended this course:
- (b) Number of certificate issued:
- (c) Number of students passed the course:

Day-1
(28-02-19)

Time: 09:00 AM to 11:00 AM

Inauguration of certificate course

The first day of certificate course started with Welcoming and Opening Ceremony at the KGR CET conference Hall. The following dignitaries were representatives of the certificate course who were addressed and pointed out the importance on course with short welcoming speeches.

Welcome addressed by Mr. M. Saidi Reddy, HOD, CSE, KGR CET
About the certificate course by Principal Dr. R. S. Jahagirdar, KGR CET.
Importance of this course by expert trainer Mohammed Akber Ansari, Industry Expert ,
Hyderabad
Interaction with 2nd & 3rd year 2nd semester students

Time: 11:10 AM to 04:15 PM

Industrial Automation is the technology by which a process or procedure is performed with minimum human assistance. Automation or automatic control is the use of various control systems for operating equipment such as machinery, processes in factories, boilers and heat treating ovens, switching on telephone networks, steering and stabilization of ships, aircraft and other applications and vehicles with minimal or reduced human intervention. Some processes have been completely automated. These special computer devices are different from regular computers such as PCs or smartphones in that:

1. A PLC performs only a single set or sequence of tasks, with greater reliability and performance, except when it is under real-time constraints. This is in contrast to regular PCs and smartphones that are designed to execute any number of roles simultaneously within the Windows framework.
2. The PLC has a number of features that you don't find in normal computers, such as protection from the open area conditions like heat, dust and cold.
3. It is low cost compared with other microcontroller systems. When you're using a PLC in various applications, you only need to change the software component for each application. With other microcontroller systems however, you would have to change the hardware components too with different applications.

Each PLC system has three modules namely: CPU module, power supply module and one or more input/output (I/O) module.

- CPU Module

This module is comprised of a central processor and its memory component. This processor performs all the needed data computations and processing by receiving inputs and producing corresponding outputs.

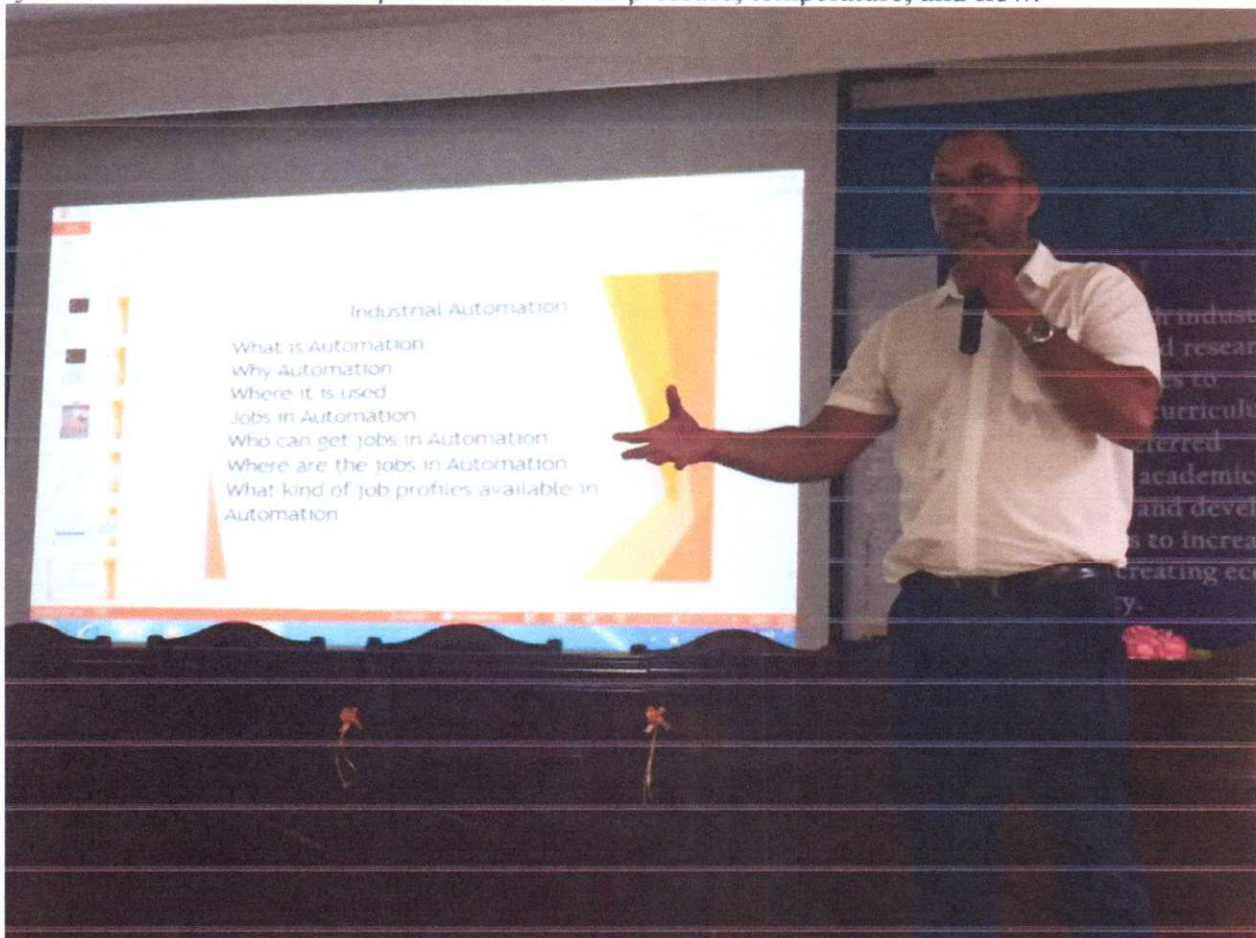
- Power supply module

PLC's computer circuitry runs on a 5V DC output and this is supplied by the power supply module. This is essentially the module responsible for powering up the system.

It receives AC power and converts it to DC power that the two other modules (CPU and input/output modules) use.

- I/O Modules

The input/output modules are responsible for connecting the sensors and actuators to the PLC system to sense the different parameters such as pressure, temperature, and flow.



Photograph showing industry expert Mohammed Akber Ansari explaining the need of PLC