CHHOTUBHAI GOPALBHAI PATEL INSTITUTE OF TECHNOLOGY

Department of Electrical and Electronics & Communication Engineering

A REPORT

ON

Five Days STTP based on "Industrial Automation"

Title of the STTP	Industrial Automation
Organizing Department	**Department of Electrical Engineering and Electronics & Communication Engineering**
Chief Patron	Dr. D. R. Shah, Provost, UTU.
Patron	Dr. N. C. Shah, Director, CGPIT.
Convener	Ms. Karmani Rajput (Head of EE/EC Dept.)
Programme Coordinators	Ms. Unnati Mali Mr. Mayank Kapadia
Organizing Committee	Mr. Jay Patel Mr. Manish Nakrani Mr. Darshan Vora Mr. Jemish Maisuria Ms. Nita Patil
Target Audience	Faculty members and industrial person, Research scholars and Engineering students.
Total Number of Participants	19
Date of Programme	26th -30th June, 2018
Invited Speakers	Mr. Manish Nakrani Ms. Nita Patil Ms. Unnati Mali Mr. Darshan Vora Ms. Karmani Rajput Mr. Jayesh Parekh Mr. Keyur Surati Mr. Jemish Maisuria Mr. Jay Patel Mr. Mayank Kapadia

Schedule of STTP

C. G. Patel Institute of Technology, Bardoli
Department of Electrical Engineering and Electronics & Commūnication Engineering
Five Days Short Term Training Program on
"Industrial Automation"
26th – 30th June 2018
Schedule

Day/ Date	8:30 to 9:30	9:30 to 11:30	11:30 to 11:45	11:45 to 1:15	1:15 to 2:15	2:15 to 3:30
26-06-2018 Tuesday	**Registration Breakfast Inaugral Function**	Need of Industrial Automation (MKN)	**Tea Break**	Introduction to PLC (NP)	**Lunch Break**	Basics of networking used in PLC (DV)
	9:00 to 10:30	**10:30 to 11:00**	**11:00 to 1:00**	**1:00 to 2:00**	**2:00 to 3:30**	**3:30 to 3:45**
27-06-2018 Wednesday	PLC Programming (UAM)	**High Tea**	PLC Programming (UAM)	**Lunch Break**	PLC Programming Lab Sessions (UAM, DRV)	**Tea**
28-06-2018 Thursday	High End Instructions with PLC (RKH)		High End Instructions with PLC (RKH)		High End Instructions with PLC Lab Sessions (RKH,DRV)	
29-06-2018 Friday	Introduction to Pneumatic System and Hydraulic System (KS, JP)		Electro-Hydrulic and pneumatic System (JVM , JAP)		Interfacing of PLC with different systems (JVM, MRK)	
30-06-2018 Saturday	Introduction to SCADA (MKN)		Lab Sessions (ALL)		**Velidictory Function**	

Details of the STTP:

Preamble:

Department of Electrical and Electronics & Communication Engineering, CGPIT has organized Five days Short Term Training Programme on "**Industrial Automation**" sponsored by Uka Tarsadia University. Total 19 participants participated in this STTP.

The inauguration ceremony of STTP was started by UTU song. As per tradition of CGPIT, all the dignitaries were given a warm welcome and were felicitated to express respect and gratitude towards them for devoting their valuable time and gracing the STTP. The dignitaries that graced the inauguration ceremony of STTP were Dr. R. V. Patil (Director, CGPIT), Ms. Karmani Rajput (Head of EE/EC Department, CGPIT) and Mr. Jayesh Jariwala (In-Charge of Bosch Centre of Excellence, CGPIT). The dignitaries were felicitated by the coordinators of the STTP.

Mr. Manish Nakrani gave a brief introduction about the STTP. He introduced the dignitories and expressed his views about the importance of STTP. The H.O.D of Electrical/Electronics & Communication Engineering department, Ms. Karmani Rajput gave the welcome speech and gave some brief idea about Industrial Automation. The Honourable Director of CGPIT, Dr. R. V. Patil gave the welcome speech. He motivated the students and faculties for participating in technical events like short term training program, STTP, expert talk, etc. He also congratulated and appreciated the efforts made by the EE/EC department for organizing such STTP. He shared his knowledge about the necessity of automation in industries in present scenario. Also Mr. Jayesh Jariwala gave welcome speech and motivated student for participating in such kind of events.

Session Detail:

All the sessions were very interactive and laid a very good impact on the audience.

Day-1: Session-1: Need of Industrial Automation

      Session-2: Introduction to PLC

      Session-3: Basics of networking used in PLC

Day-2: PLC Programming

Day-3: High End Instructions with PLC

Day-4: Session-1: Introduction to Pneumatic System and Hydraulic System

      Session-2: Electro-Hydrulic and pneumatic System

      Session-3: Interfacing of PLC with different systems

Day-5: Session-1: Introduction to SCADA

      Session-2: Lab Session

- **Need of Industrial Automation**

  In this session, Mr. Manish Nakrani has discussed about present scenario of automation and need of automation. Also he has explained the block diagram of automation and different components used in automation.

- **Introduction to PLC**

  In this session, Ms. Nita Patil has discussed about the basics of Programmable logic controller. He has discussed comparison of PLC and relay based system, importance of PLC, detail architecture of PLC and also different languages used in PLC.

- **Basics of networking used in PLC**

  In this session, Mrs. Diya Vadhwani has discussed about networking used in PLC and how to communicate PLC with other devices.

- **PLC Programming**

  In this session, Ms. Unnati Mali has discussed PLC programming using ladder diagram in detail. She has started with basic programming like Boolean algebra and on-off condition. Then she has discussed concept of latching, use of different type of timers and counters in PLC by explaining different problem statements. Lab session of basic PLC programming conducted by Mr. Darshan Vora.

- **High End Instructions with PLC**

  The session was conducted by Ms. Karmani Rajput. She has explained Compare Instructions, Arithmetic Instructions and Analog Instructions with different type of practical problems. Lab session of High End Instructions with PLC was conducted by Mr. Darshan Vora.

- **Introduction to Pneumatic System and Hydraulic System**

  The session was conducted by Mr. Jayesh Parekh and Mr. Keyur Surati. Mr. Jayesh parekh has started with hydraulic system basics. He has explained in detail different hydraulic valves and circuit connection used in industries. Then session was conducted by Mr. Keyur Surati. He has given brief introduction of Pneumatic system also they have given demo of different systems used in industry at hydraulic and pneumatic laboratory.

- **Electro-Hydrulic and pneumatic System**

  In this session, Mr. Jemish Maisuria and Mr. Jay Patel have explained in detail how to use electric circuits to operate valves of hydraulic and pneumatic system. They have given demo of electro hydraulic and pneumatic circuit.

- **Interfacing of PLC with different systems**

The session was conducted by Mr. Jemish Maisuria and Mr. Mayank Kapadia. They have explained the interfacing of PLC with hydraulic and pneumatic system.

- **Introduction to SCADA**

  In this session, Mr. Manish Nakrani has explained how to use and operate Human Machine Interface system with PLC. He has explained each step in detail to programme the HMI device and PLC. Also he has explained in detail components used in Mechatronics lab and their operation.

- **Lab Session**

  In this lab session students have perform the practical on Hydraulic and Pneumatic circuits interfaced with PLC.

Glimpse of the STTP:

Welcoming Dignitaries

Speech by Dignitaries

Technical Sessions

Valedictory Function

Group Photo of STTP

Feedback :

Feedback was collected from the participants in last session of the STTP. The overall feedback of the STTP was very positive.