



Sandip Foundation's
Sandip Institute of Technology & Research Centre, Nashik
Department of Electronics & Telecommunication Engineering

Date: 10/9/2015

Industry-Academia Innovative Practices

Name of Event: Seminar on “PLC Automation”

Date of Event:9/09/2015

Duration of Event:one day

Name of resource person:Mahesh Rasal

Name and Address of Company:TAACT Institute, Nashik

Name of Event Coordinator:Prof.P.G.Salunke&Prof.M.D.Nikose(E&Tc Department)

Participant: Third Years students

Objectives:

Sr.No.	Course Title	Course Objectives
1.	Electrical Safety	The Participant should be able to : <ol style="list-style-type: none">1. Follow Electrical Safety Guidelines2. Ground Electrical System, Equipments and Static Electricity3. Handle Electrical Arc and Lightening4. Use Electricity in Hazardous Area5. Understand Plant O&M Safety Guidelines6. Understand Sub Station and Battery Safety7. Follow Electrical Safety Guidelines in India
2.	Grounding, Shielding and Surge Protection	The Participant should be able to : <ol style="list-style-type: none">1. Understand usage of Earth as an conductor2. Ground Electrical System and Equipment Body3. Design Earth Pit and Electrode Dimensions4. Various Power Supply Configurations

		<p>5. AC / DC Power and Signal Grounding</p> <p>6. Various types of Analog and Digital Signals</p> <p>7. Shielding, Twisting and Grounding of Signal Cables</p> <p>8. Zone wise Protection against Lightening Surges and Surge Suppressing Devices</p>
3.	<p>Installation, Troubleshooting and Preventive Maintenance of PLC based Control System</p>	<p>The Participant should be able to :</p> <ol style="list-style-type: none"> 1. Identify Automation & Control Components used in a System 2. Identify PLC CPU and other Modules of PLC used in a System 3. Identify PLC, HMI and SCADA Devices and Network 4. Install basic Automation and PLC System Components 5. Commission PLC based System 6. Trouble shoot PLC based System on component Level 7. Identify and execute Preventive Maintenance Guidelines
4.	<p>Installation, Troubleshooting and Preventive Maintenance of AC Drive based Control System</p>	<p>The Participant should be able to :</p> <ol style="list-style-type: none"> 1. Identify requirement of AC Drive 2. Identify AC Drive System Components 3. Install AC Drive and Motor 4. Commission AC Drive System with Functional Trials 5. Troubleshoot AC Drive System on major component level 6. Get assistance from Troubleshooting Parameters 7. Identify and execute Preventive Maintenance Guidelines
5.	<p>Troubleshooting and Preventive Maintenance of Electro – Pneumatic System</p>	<p>The Participant should be able to :</p> <ol style="list-style-type: none"> 1. Read and Analyze Electro Pneumatic Circuits 2. Trouble shoot basic faults in Pneumatic Circuit Operation 3. Trouble shoot basic Pneumatic and Electro Support Components 4. Maintain Compressed Air Quality

		5. Identify and execute Preventive Maintenance Guidelines
6.	Troubleshooting and Preventive Maintenance of Electro – Hydraulic System	The Participant should be able to ... 1. Read and Analyze Electro Hydraulic Circuits 2. Trouble shoot basic faults in Hydraulic Circuit Operation 3. Trouble shoot basic Hydraulic and Electro Support Components 4. Maintain Hydraulic Oil Quality 5. Identify and execute Preventive Maintenance Guidelines
7.	Digital Communication in Industrial Automation	The Participant should be able to : 1. Read and Analyze Digital Communication Networking Diagrams. 2. Identify various Communication Networking Hardware Components. 3. Understand Ethernet Operation/Installation and its Troubleshooting. 4. Understand Modbus Operation/Installation and its Troubleshooting. 5. Understand PROFIBUS Operation

OUTCOMES:-

Sr No.	OUTCOMES
1	Ability to gain knowledge on Programmable Logic Controllers
2	Able to create ladder diagrams from process control descriptions.
3	Ability to apply PLC timers and counters for the control of industrial processes
4	Able to use different types PLC functions, Data Handling Function.
5	Able to develop a —coil and contact control system to operate a basic robot and analog PLC operations.

Photographs:





