

<b>Course Name</b>	:	<b>PLC Programming basic</b>
<b>Course Code</b>	:	<b>AUT01</b>
<b>Course Objective:</b> Making participants familiar with TIA portal v.14, PLC s7-1200, PLC S7-1500		
<b>Duration of course 24 hrs.</b>		
<b>Lecture/Lab wise breakup</b>		<b>Number of hours</b>
1.	<p>Introduction to the basics of PLC. The topics will be covered such as PLC Definition and types, PLC architecture, Hardware and signals</p> <p>introduction to various sensors which are used as input and output devices used in Automation and application- Sinking and Sourcing</p> <p>Introduction of TIA portal software S7-1200 PLC selection and configuration in different views like portal view and project view, communication settings, software features</p> <p>introduction to the Basic notations of PLC programming and Basic Bit logic operations such as NO, NC and Output</p>	<b>8</b>
2.	<p>Programming of Basic gate functions such as AND, OR, NOR etc., Comparator functions</p> <p>introduction to S7-1200 CPU memory, function block, and data blocks</p> <p>Programming using math functions, counter, timer</p>	<b>8</b>
3.	<p>S7-1500 plc mounting, selection and configuration, communication settings</p> <p>Introduction of s7-1500 CPU memory, the I/O section, Discrete I/O modules, Analog I/modules</p> <p>KTP-700 HMI Selection and configuration in TIA Portal, communication settings, interface with s7-1500 plc</p>	<b>8</b>
<b>Course Outcome</b>	After successful completion of this course, user will be able to program the various modules of Automation system.	

<b>Course Name</b>	:	<b>PLC Application basic</b>
<b>Course Code</b>	:	<b>AUT02</b>
<b>Course Objective:</b> Making participants familiar with TIA portal v.14, PLC s7-1200, PLC S7-1500		
<b>Duration of course 24 hrs.</b>		
<b>Lecture/Lab wise breakup</b>		<b>Number of hours</b>
1.	Introduction of Plc Applications & Programming of Real-world applications Creating the project and configure hardware Creating step diagram of different type of application Explain the step diagram of traffic light control and Exercises on it.	<b>8</b>
2.	Explain the step diagram of Elevator control and Exercises on it Explain the step diagram of Conveyor control and Exercises on it	<b>8</b>
3.	Explain the step diagram of Pick a place and Exercises on it Explain the step diagram of Temperature control and Exercises on it	<b>8</b>
<b>Course Outcome</b>	After successful completion of this course, user will be able to program the various modules of Automation system.	

<b>Course Name</b>	:	<b>PLC Programming Foundation</b>
<b>Course Code</b>	:	<b>AUT_F</b>
<b>Course Objective:</b> PLC Awareness		
<b>Duration of course 8 hrs.</b>		
<b>Lecture/Lab wise breakup</b>		<b>Number of hours</b>
1.		
2.	<ul style="list-style-type: none"> <li>-Introduction to PLC</li> <li>- History of PLC</li> <li>- Applications of PLC</li> <li>- Architecture of PLC</li> <li>-Types of PLC</li> <li>-PLC Modules</li> <li>-Input and Output devices</li> <li>-Sinking and Sourcing</li> </ul>	<b>4</b>
3.	<ul style="list-style-type: none"> <li>-Communication</li> <li>-Types of PLC Communication</li> <li>-Memory</li> <li>- PLC Memory types</li> <li>- Data Types Introduction</li> <li>- Addressing Memory Areas</li> <li>- PLC Programming languages</li> <li>-Practical on ladder diagram Languages</li> <li>-Assessment</li> </ul>	<b>4</b>
<b>Course Outcome</b>	After successful completion of this course, user will be able aware about PLC	