



GUJARAT TECHNOLOGICAL UNIVERSITY
Syllabus for Bachelor of Vocation (B. Voc.), 5th Semester
Branch: Solar & Renewable Energy
Subject Name: Industrial Automation Lab
Subject Code: 1150705

Type of course: Under Graduate

Prerequisite: Fundamental of Analog & Digital Electronics

Rationale: Automation is playing a key role in Industries. Industries rely heavily on automation for economic viability and mass production. It is important for the students to learn basic of automation, how system works and importance of PLC, SCADA and robots in automation. This course will provide opportunity to learn industrial automation techniques.

Teaching and Examination Scheme:

Teaching Scheme			Credits	Examination Marks				Total Marks
L	T	P		Theory Marks		Practical		
				ESE (E)	PA(M)	ESE (V)	PA (I)	
0	0	2	2	0	0	30	20	50

L- Lectures; T- Tutorial/Teacher Guided Student Activity; P- Practical; C- Credit; ESE- End Semester Examination; PA- Progressive Assessment

Contents:

Sr. No.	Practical / Hands on Exercise	Teaching Hrs.
1	To Study & Perform Characteristics and use of Proximity Sensor.	2
2	To Study Characteristics and use of RTD and LVDT.	2
3	To Study use of Actuators Like Relay, Solenoid Valve.	2
4	To Simulate Relay Logic Using Ladder Diagram.	2
5	To Simulate AND Logic Gate Using Ladder Diagram.	2
6	To Simulate OR Logic Gate Using Ladder Diagram.	2
7	To Simulate NAND Logic Gate Using Ladder Diagram.	2
8	To Simulate EX-OR Logic Gate Using Ladder Diagram.	2
9	To Simulate Multiplexer Using Ladder Diagram.	2
10	To Simulate Half Adder & Full Adder Using Ladder Diagram.	2
	Total	20



GUJARAT TECHNOLOGICAL UNIVERSITY
Syllabus for Bachelor of Vocation (B. Voc.), 5th Semester
Branch: Solar & Renewable Energy
Subject Name: Industrial Automation Lab
Subject Code: 1150705

Course Outcome:

Sr. No.	CO statement	Marks% weightage
CO1	To Understand the working of Different Sensors.	35
CO2	To Illustrate the working of Actuators	25
CO3	To Construct ladder diagram for different logic gates.	15
CO4	To Construct ladder diagram for different Combinational circuits	15

Major Equipment:

1. Set up for performing PLC programs.