



NARULA INSTITUTE OF TECHNOLOGY  
DEPT OF ELECTRONICS AND INSTRUMENTATION

SR NO	LABORATORY NAME AND CODE	MAJOR EQUIPMENTS	LAB PICTURE	BRIEF DESCRIPTION ABOUT LABORATORY
1	INDUSTRIAL INSTRUMENTATION LAB EI591	<ol style="list-style-type: none"> <li>1. FLOW METERS: ORRIFICE, DIFFERENTIAL TRANSMETER</li> <li>2. CAPACITIVE LEVEL TRANSMITTER</li> <li>3. BUFFLE FURNACE</li> <li>4. VISCOSITY MEASUREMENT</li> <li>5. MOISTURE MEASUREMENT</li> <li>6. 6 1/2 DIGIT MULTIMETERS, DIGITAL STORAGE OSCILLOSCOPE</li> </ol>		<p>INDUSTRIAL INSTRUMENTATION LABORATORY OF ELECTRONICS AND INSTRUMENTATION DEPARTMENT IS DESIGNED AS PER THE INDUSTRIAL RECENT PROCESSES AND STANDARDS. THIS LABORATORY GIVES A CLEAR PICTURE OF AN INSTRUMENTATION AND AUTOMATION INDUSTRY. A NUMBER OF EXPERIMENTS RELATED TO FLOW MEASUREMENT WITH VARIOUS SMART SENSORS, LEVEL MEASUREMENT, TEMPERATURE MEASUREMENT OF BUFFLE FURNACE, MOISTURE MEASUREMENT, VISCOSITY MEASUREMENT CAN BE PERFORMED IN THIS LABORATORY. ELECTRONIC INDICATOR DISPLAY PANELS ARE ATTACHED TO EVERY INDUSTRIAL SETUP. THE PROCESS PARAMETERS ARE INTERFACED WITH THE PERSONAL COMPUTERS WITH NATIONAL INSTRUMENT BASED DATA ACQUISITION CARDS. FURTHER DATA ANALYSIS CAN BE PERFORMED USING NI LABVIEW SOFTWARE.</p>
2	SENSORS AND TRANSDUCERS LAB EI592	<ol style="list-style-type: none"> <li>1. NATIONAL INSTRUMENTATION DATA ACQUISITION SYSTEMS</li> <li>2. LABVIEW SOFTWARE</li> <li>3. SMART SENSORS LIKE AD590, LDR, LOAD CELLS, CAPACITIVE TRANSDUCERS, LVDT</li> <li>4. DIGITAL STORAGE OSCILLOSCOPE, MULTIMETERS, FUNCTION GENERATORS</li> </ol>		<p>SENSORS AND TRANSDUCERS LABORATORY IS ONE OF THE SOFISTICATED LABORATORY OF ELECTRONICS AND INSTRUMENTATION DEPARTMENT. THE LABORATORY IS DESIGNED ON THE CONCEPT OF VIRTUAL INSTRUMENTATION. MEASUREMENT AND CALIBRATION OF VARIOUS SMART SENSORS WITH THEIR REQUIRED COMPLETE SETUP ARE PERFORMED AND THE NATIONAL INSTRUMENT DATA ACQUISITION CARDS ARE INTERFACED WITH PERSONAL COMPUTERS. DATA ANALYSIS IS PERFORMED BY LABVIEW SOFTWARE IS INSTALLED IN THE PERSONAL COMPUTERS.</p>
3	MICROPROCESSORS AND MICROCONTROLLER LAB (EI 492, EI692)	<ol style="list-style-type: none"> <li>1. MICROPROCESSORS: 8085, 8086 WITH PERIPHERALS LIKE SERVO MOTORS, STEPPER MOTORS, SEVEN SEGMENT DISPLAYS</li> <li>2. MICROCONTROLLERS: 8051 WITH PERIPHERALS LIKE SERVO MOTORS, STEPPER MOTORS, SEVEN SEGMENT DISPLAYS</li> <li>7. PERSONAL COMPUTERS</li> </ol>		<p>THE MAIN FOCUS OF THIS LABORATORY IS TO MAKE OUR STUDENT AWARE OF ASSEMBLY LANGUAGE PROGRAMMING WITH THE HELP OF 8085 AND 8086 INSTRUCTION SETS. THIS MICROPROCESSOR (8085, 8086) CAN BE INTERFACING WITH NUMBER OF PERIPHERALS LIKE LED MODULE, 7-SEGMENT DISPLAY MODULE, STEPPER MOTOR &amp; SERVO MOTOR MODULE ETC EXPERIMENT CAN ALSO BE PERFORMED ON MICROCONTROLLERS (8051) WHICH ARE INTERFACED WITH PERIPHERALS LIKE LED MODULE, 7-SEGMENT DISPLAY MODULE, STEPPER MOTOR &amp; SERVO MOTOR MODULE ETC. IN THIS LABORATORY SEVERAL MICROCONTROLLER BASED PROJECTS ARE DESIGNED AND IMPLEMENTED.</p>