

Lab Name: Microprocessor & Instrumentation Lab

Room No: 229
EE Department (NBA Accredited)
A D Patel Institute of Technology
New Vidyanagar
Lab in-charge name: Pro. Dhaval N Tailor
www.adit.ac.in

Lab Area: 228.87 Sq.m

Lab Introduction:

Microprocessor and instrumentation lab has various types of microprocessor, micro controller trainer kits along with interfacing modules to demonstrate the detailed applications of microprocessors. The purpose of this laboratory is to train the students to be familiar with the software and hardware of microprocessors so that they can gain enough experiences to meet the demand of the microprocessor era.

The facilities in the laboratory enable students to build a firm background in microprocessor hardware as well as software. Students learn about assembly language programming, CPU, memory and I/O design, interfacing of programmable chips and peripherals such as stepper motors, analog-to-digital and digital-to-analog converters etc. They acquire the practical skills sufficient to design and realize basic microprocessor based systems. This laboratory is used to provide intensive practical exposure to the students in the field of microprocessor architecture and industrial control through them. Different exercises in this lab includes Serial Data Communication between PC and 8051 microcontroller trainer kit, writing on EPROM and microcontroller Chip using UIP. The lab also provides the facility to interface the microprocessor & microcontroller with different circuits such as A/D converters, stepper motors, DC motors, 7 segment LED, 16x2 LCD etc.

Laboratory have Advance microcontroller kits with I2C, SPI and UART communication. Different peripherals like RTC, H-bridge driver module for motor control. Lab have latest ARM CORTEX M3 trainer kits with three phase current and voltage measurement cards. Laboratory have Latest DELTA make PLC and 10inch HMI for explaining industrial automation which is the prior need of industries.

Lab Photograph:



Major Instruments available in lab:

1. Advanced 8051 Microcontroller Trainer Kit
2. ARM CORTEX M3 trainer kits
3. Delta make PLC with 24DI, 22DO, 8DI & 8DO, DVP14SS211R:8DI/6DO, DVP16SP11R: 8DI & 8DO,
4. Analog Digital Trainer EDKITS
5. WACON make 10" HMI (human machine interface)
6. Agilent model: DSOX2004A, 70MHz, 4 Channel, Oscilloscope.
7. PID Controller Trainer Make: Sciencetech Model: ST 2

**Department of Electrical Engineering (NBA Accredited),
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