# Microprocessor and Microcontroller Laboratory

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Intel 8086 Microprocessor : The lab is well furnished with all the necessary apparatus required for enhancing the learning process of microprocessors and microcontrollers. The trainer 8086 kit demonstrates with the capabilities of 8086 microprocessor.8086 board is based on Intel 8086 Microprocessor, which operates at 6.144 MHz using the crystal of 18.432. The board can operate using the 101/104 PC keyboard supplied along with the trainer kit and 2 Line by 16-character LCD display or from the PC. The kit is equipped with 8255 PPI IC, EEPROM and RAM memory, 8253 Programmable Timer IC and 8251 USART IC for serial communication. The learning of microprocessors are accompanied along with the learning of microcontrollers using the Intel Galileo Gen 2 board which are Arduino board providing students the facility to develop their own project. This platform provides the ease of Intel architecture development through support for the Microsoft Windows*, Mac OS*, and Linux* host operating systems. It also brings the simplicity of the Arduino integrated development environment (IDE) software.

This 8051 trainer kit is proposed to smooth the progress of learning and developing designs of MCU from Intel and NXP. This 8051 Trainer kit could act as a standalone unit, the kit can be programmed and evaluated without using PC. This 8051 Trainer kit has an option to connect PC's 101/104 Keyboard, to enter user programs in Assembly languages. Serial communication achieved using 8051. It also supports C & assembly language using PC. It's designed as to facilitate On-board Programmer for NXP 8051 MCU through ISP on serial port. This kit suits the requirement of study equipment in engineering college.
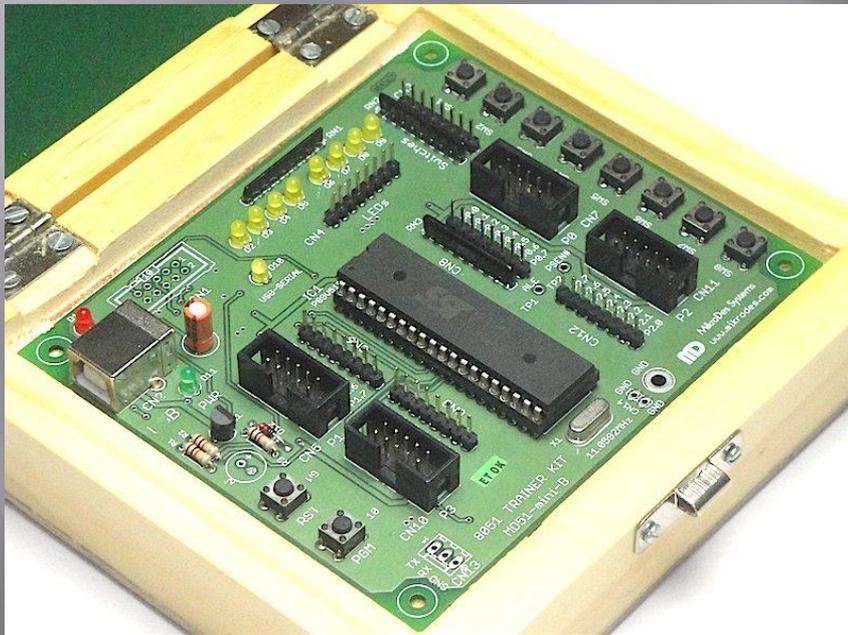
The 2nd generation Intel® Galileo board provides a single board controller for the maker community, students, and professional developers. Based on the Intel® Quark™ SoC X1000, a 32-bit Intel® Pentium® processor-class system on a chip (SoC), the genuine Intel® processor and native I/O capabilities of the Intel Galileo board (Gen 2) provide a full-featured off erring for a wide range of applications. Arduino-Certifi ed and designed to be hardware-, software-, and pin-compatible with a wide range of Arduino Uno R3 shields, the Intel Galileo Gen 2 board also provides a simpler and more cost-effective development environment compared to the Intel® Atom™ processor- and Intel® Core™ processor-based designs.