

## Microprocessors & Microcontrollers Lab

The Microprocessor & Microcontrollers Lab is a key programming language and hardware laboratory for B.Tech. Students and it is specially designed and developed for the students to give knowledge and practical exposure on 8086 processor and 8051 controller. It provides intensive practical exposure in the field of Microprocessors & Microcontrollers. This lab supports interfacing the microprocessor & micro controller with peripherals like LED displays, Keyboards, DAC/ADC, Stepper motors, other devices and practical experiments to perform arithmetic, logical operations using Software like TASM/MASM, Debug etc. The laboratory facilitates at higher level of learning like mini projects, main projects and real time applications as self learning activity. All the infra structural resources of the lab is of worth Rs.25,00,000/-.





### Major Equipment:

S.No.	Name of the Equipment	Qty.	Cost in Rs.
1	8086/8088 Microprocessor Trainer Kits	63	3,12,083
2	8051 Microcontroller Trainer Kits	30	1,83,800
3	Interfacing Boards	80	89,303
4	Power supply systems	31	44,364
5	Cathode Ray Oscilloscopes	02	37,000
6	Computer Systems	36	11,62,000
7	6KVA- UPS	01	1,29,0000
<b>Grand Total Cost in Rs.</b>			<b>23,61,924.00</b>

### List of Experiments (As per curriculum):

S.No.	Name of the Experiment
1.	Programming for Data Transfer Operations
2.	Programming for Arithmetical Operations
3.	Programming for Logical Operations
4.	Programming for String Operations
5.	Programming for Sorting (Ascending & Descending Order)
6.	Code Conversion programs
7.	String Comparison program
8.	Read a Character and Display the string using MASM
9.	Reverse the String using MASM
10.	Key board Interfacing
11.	Display Interfacing
12.	Stepper motor Interfacing
13.	DAC Interfacing (Sine, Square, Saw tooth, Triangular)
14.	ADC Interfacing
15.	8259 Interrupt Controller interfacing
16.	Arithmetical Operations using 8051 microcontroller
17.	Logical Operations using 8051 microcontroller
18.	Bit manipulation Operations using 8051 microcontroller
19.	Writing data to Parallel Port of 8051 microcontroller
20.	Experiment on Timers and Interrupts of 8051 microcontroller

## List of Experiments (Beyond the Syllabus):

S.No.	Name of the Experiment
1	Programming on Serial and Parallel port printers
2	Interfacing of one PC to another PC

**Lab Mentor** : Dr.G.Srinivasulu, Professor  
**Lab In-charge** : Mr. K.Sasi Bhushan, Associate Professor  
**Lab Co-Incharge** : Mr. R.Hari Kishan, Assistant Professor  
**Lab Technician** : Mrs. T.Bharghavi, Mr.Y.Srinivasa Reddy