



MICROPROCESSOR & INTERFACING Lab

Major Equipments:

Microprocessor/Microcontroller Trainer Kit

- 8085 Microprocessor
- 8086 Microprocessor
- 8031 Microcontroller
- Interfacing Cards
 - 8255-PPI, Study Card
 - Dc Motor Controller Card With Motor & Power supply
 - Thumb Wheel With Card
 - Dual Dac. Interface Module
 - Stepper Motor Interface
 - 8279 Keyboard Display Controller
 - Traffic Light Controller Card
 - ADC Interface Module



In Charge

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Physical in Charge:

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MICROPROCESSOR & INTERFACING Lab

STANDARD OPERATING PROCEDURE TO BE FOLLOWED IN LABORATORY:

- Students are not allow to touch any equipment, chemicals or other materials in the laboratory area until Teacher or Technician instructs you.
- Before starting Laboratory work, follow all written and verbal instructions carefully. If you do not understand a direction or part of a procedure, ASK YOUR CONCERN TEACHER BEFORE PROCEEDING WITH THE ACTIVITY.
- Before use, students must read carefully Labels and instructions. Set up and use the equipment as directed by your teacher/instructor.
- If you do not understand how to use a piece of equipment, ASK THE TEACHER FOR HELP!
- Perform only those experiments authorized by your teacher. Carefully follow all instructions, both written and oral.
- Students are not allow to work in Laboratory alone or without presence of the teacher.
- Any failure / break-down of equipment must be report to the teacher.
- Protect yourself from getting electric shock.

DO'S

- Be on time, at the start of the lab period,there will be a short introduction to the experiment you will perform the day.
- Make proper entry in Lab Register.
- Check for appropriate power supply before connecting to the equipment.
- Conduct yourself in a responsible manner at all times in the laboratory.
- Maintain silence and clean environment in The lab.

DON'T

- Avoid loose connections.
- Do not touch the main power supply leads with bare hand and avoid body earth.
- Do not use the mobile phones during laboratory.
- Don't leave the Lab without verification by Lab instructor.
- Do not eat or drink in the Lab at any time.
- Don't leave the lab without the permission of the Lecturer In-Charge.
- Do not wander around the room, distract other students, startle other students or interfere with the laboratory experiments of others.



MICROPROCESSOR & INTERFACING Lab

LIST OF EXPERIMENTS:

1. Write an assembly language program to perform the subtraction of two 8-bit number using 8085/8086 instruction set.
2. Write an assembly language program to move data block starting at location 'X' to location 'Y' without overlap using 8085/8086 instruction set.
3. Write an assembly language program to move data block starting at location 'X' to location 'Y' with overlap using 8085/8086 instruction set.
4. Write an assembly language program to arrange set of 8-bit numbers starting at location in ASCENDING/DESCENDING order. Display the stored vector in address data field using 8085/8086 instruction set.
5. Write an assembly language program to perform the multiplication of two 8-bit numbers using 8085/8086 instruction set.
6. Write an assembly language program to perform the division of two 8-bit numbers using 8085/8086 instruction set.
7. Write an assembly language program to find the larger number in array of data using 8085/8086 instruction set.
8. Write an assembly language program to convert two BCD numbers in memory of the equivalent HEX number using 8085/8086 instruction set.
9. Write an assembly language program to convert given hexadecimal number into its equivalent BCD number using 8085/8086 instruction set.
10. Write an assembly language program to convert given hexadecimal number into its equivalent ASCII number using 8085/8086 instruction set.
11. Write an assembly language program to convert given ASCII character into its equivalent hexadecimal number using 8085/8086 instruction set.
12. Write an ALP program to generate a Fibonacci series using 8085/8086 instruction set.
13. Write an ALP to find the factorial of a given number using recursive procedure using 8085/8086 instruction set.
14. Write an ALP to separate odd and even numbers using 8085/8086 instruction set.
15. Write an ALP to separate positive and negative numbers using 8085/8086 instruction set.
16. Write an ALP to transfer of a string in forward direction using 8086 instruction set.



Internet of Things Lab

COURSE OUTCOMES :-

After completion of this course, the students would be able to:

CO1. Differentiate the various types of instructions and addressing modes.

CO2. Identify the Hex code/ Machine code of instructions in assembly language.

CO3. Perform interfacing of various peripheral devices and memory with microprocessor.

CO4. Demonstrate the arithmetic & Logical operation using instruction set of 8086 /8051 microprocessor.

CO5. Use of 8086/8051 for interfacing with I/O devices.

CO6. Build the assembly language programs in 8086/8051 to solve real world problems.

LIST OF SKILL BASED MINI PROJECT :-

1. Traffic light controller using 8085/8086 microprocessor.
2. Night light saver using 8085/8086 microprocessor.
3. Interfacing 8085 with Stepper Motor controller.
4. Interfacing 8085 with DC motor controller.
5. Interfacing 8085 with keypad.
6. Interfacing 8085 with LED's. 7. Interfacing 8085 with switches.
8. Interfacing 8085 with ADC.
9. Interfacing 8085/8086 with 8255 PPI.
10. Interfacing 8085/8086 with 8251.