

Introduction

- The microprocessor is a multipurpose, clock driven, register based, digital integrated circuit that accepts binary data as input, processes it according to instructions stored in its memory, and provides results as output.
- Microprocessors contain both combinational logic and sequential digital logic.
- Microprocessors operate on numbers and symbols represented in the binary number system

Scope Of The Lab

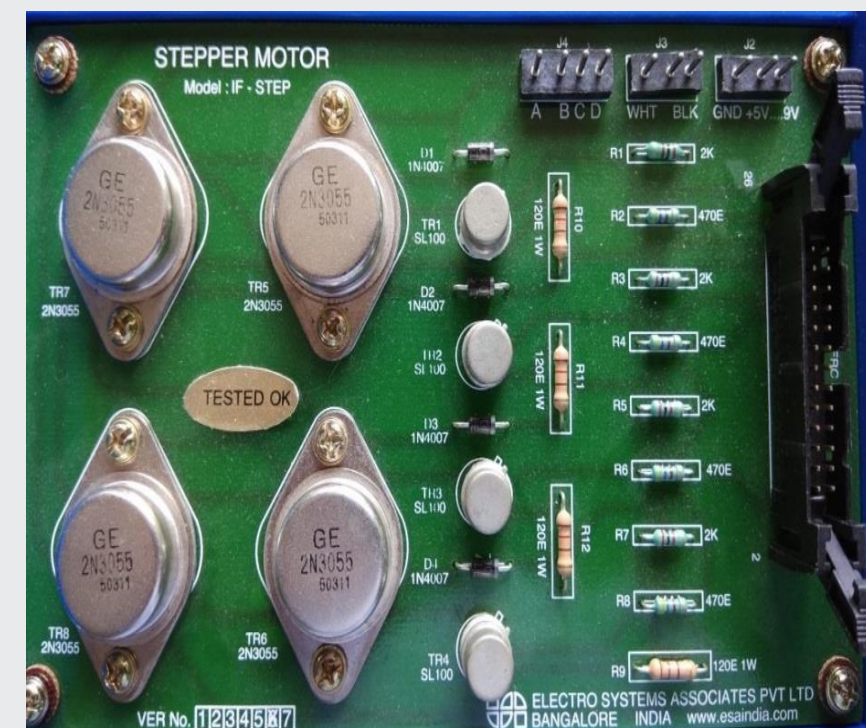
- Microprocessor technology is an exciting, challenging and growing field which will pervade industry for decades to come. Ever since, the invent of first microprocessor to the latest, microprocessors have been used in different applications. This practical course of microprocessor presents an integrated approach to hardware and software in the context of 8086 microprocessor

Courses to cater

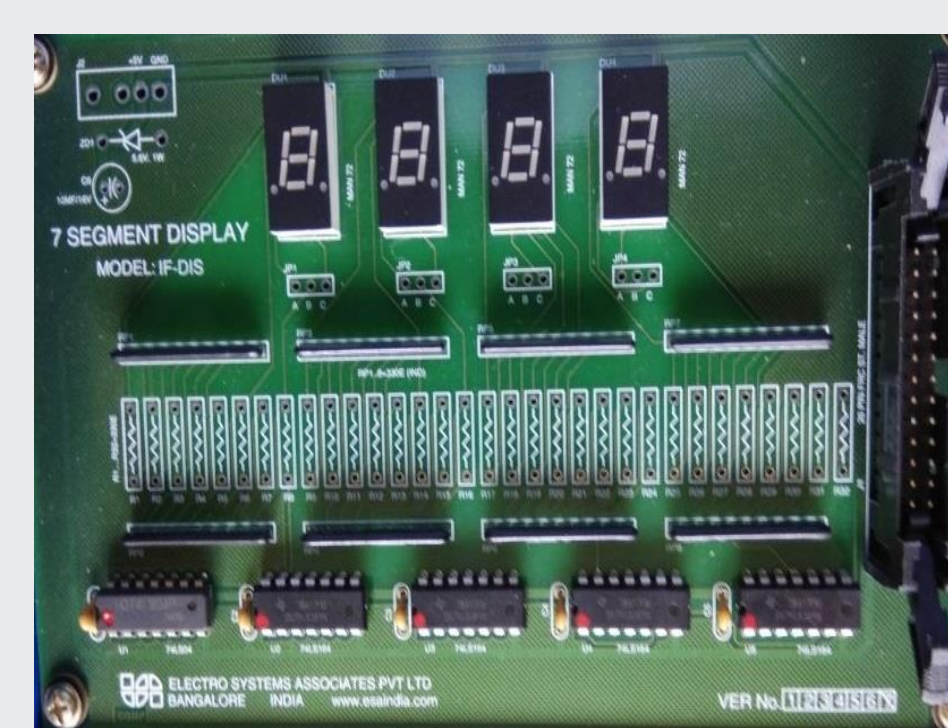
Course Title : Microprocessor and Interfacing
(CS/EEE/ECE/INSTR F241)

- BE(H) Computer Science
- BE (H) Electrical and Electronics
- BE (H) Electronics and Communication
- BE (H) Electronics and Instrumentation

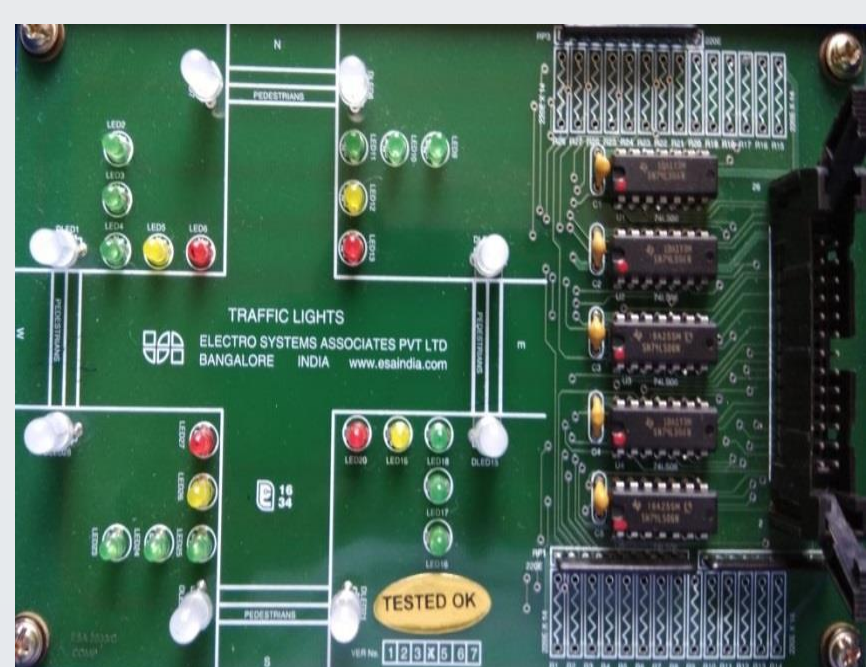
INTERFACING WITH 8086



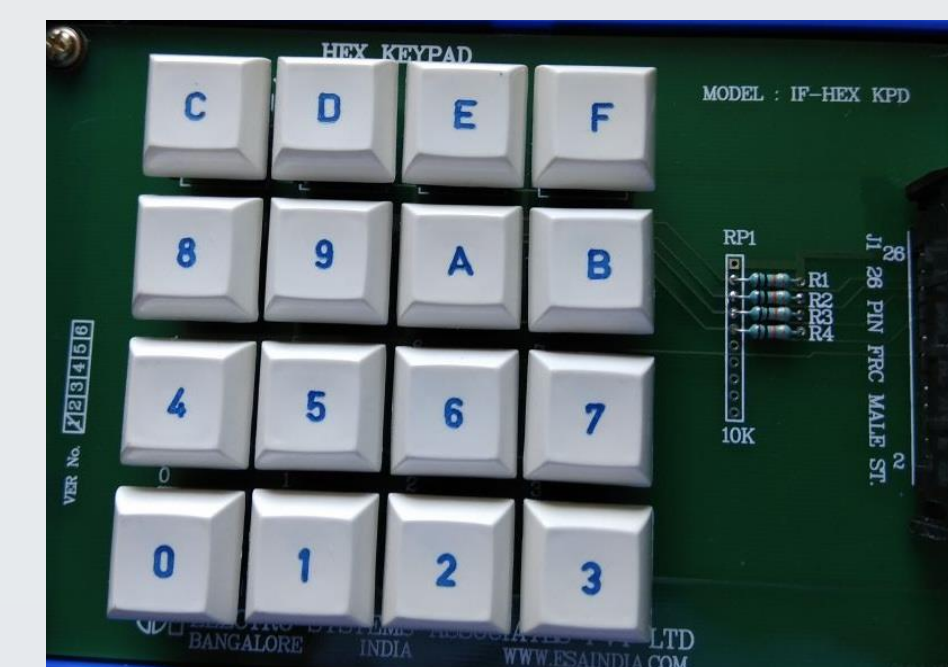
STEPPER MOTOR



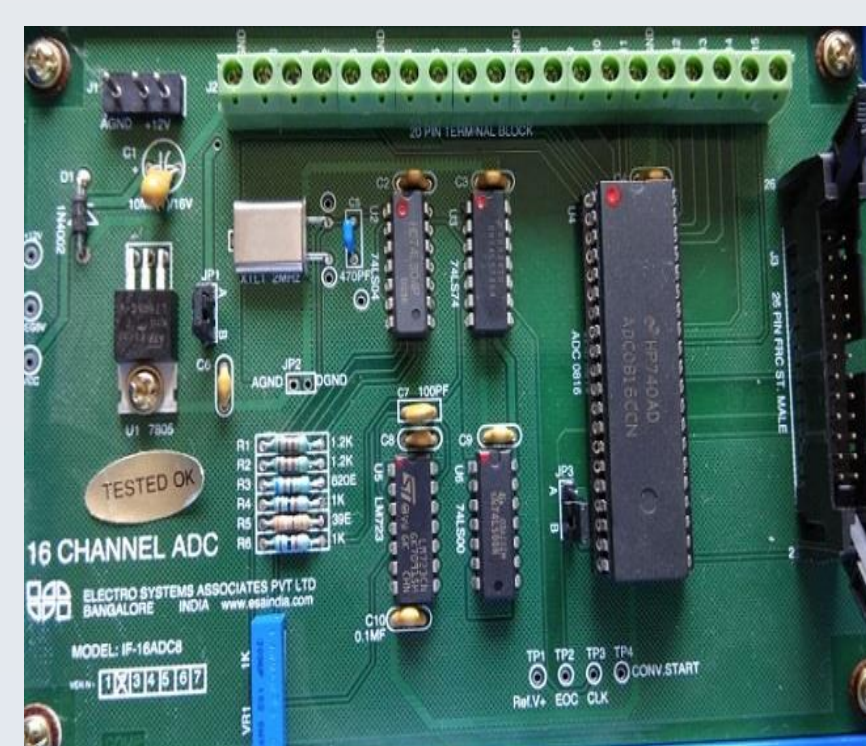
7-SEGMENT DISPLAY



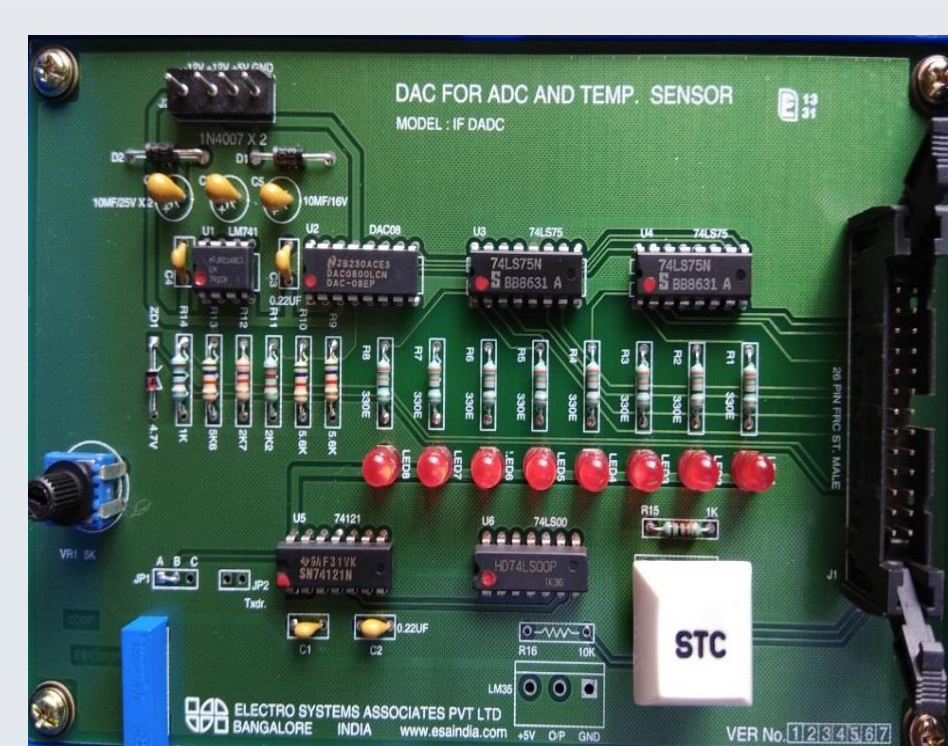
TRAFFIC LIGHTS



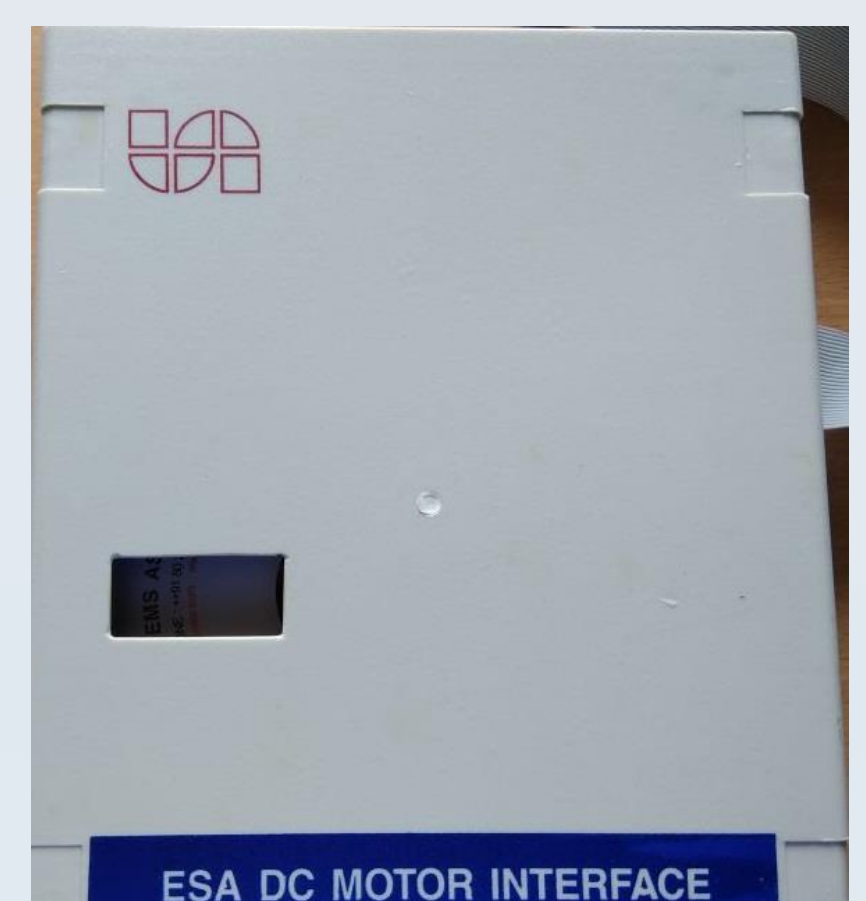
HEX KEYPAD



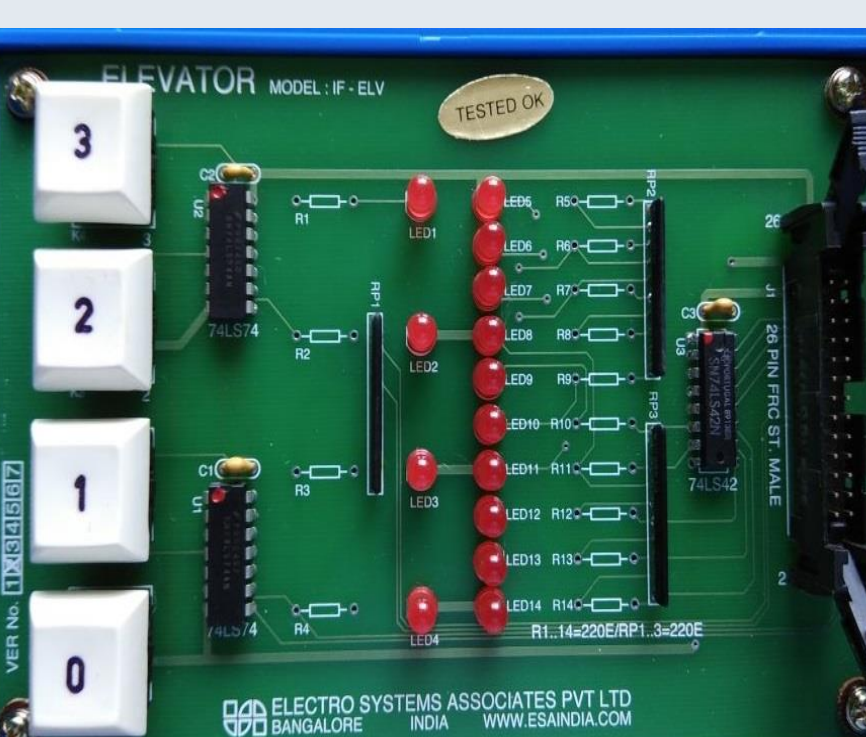
16 CHANNEL ADC



DAC FOR ADC AND TEMP SENSOR



DC MOTOR



ELEVATOR

List of experiments

- Demonstration and study of FASM software commands
- Write a program using 8086 & verify for arithmetic operations
- Average of n numbers
- Fibonacci series program
- Arrange the numbers in ascending order
- Matrix addition program
- Addressing modes using arithmetic operations
- Write a program to reverse the given string and store at the same location.
- Reversing the character order in the process by using loop instruction with indirect addressing
- Write an interrupt program using keyboard interrupt
- Stepper motor using kbint with 8086 & 8255 ppi
- Control traffic lights using interfacing
- Seven segment display using interfacing

Application Areas

- Military applications
- Complex Industrial Controllers
- Traffic light Control
- Games machine
- Data acquisition systems
- Communication systems
- Robotics
- Multi user, multi-function environments
- Calculators

Technicians

- Ms. B. Krishnaveni
- Mr. Khadar Bhasha

SOFTWARE

- FASM Software
- Emulator 8086 Software

HARDWARE



8086 KIT

