

MICROPROCESSORS & MICROCONTROLLERS

Code : EI(EE) 611

Credits : 4

Introduction to computer architecture and organization; Architecture of a typical microprocessor; Bus configuration; The CPU module; ROM and RAM families; Introduction to assembly language and machine language programming; Instruction set of a typical microprocessor (e.g. 8085) ; Subroutines and stacks; Timing diagrams; Memory interfacing; interfacing input-output ports; Interrupts and interrupt handling; Serial and parallel data transfer schemes; Programmed and interrupt driven data transfer; Direct memory access; Programmable peripheral devices; Programmable interval timer; Analog input-out using AD and DA converters.

Assembly language programming of a typical microprocessor; Use of compiler, assembler, linker and debugger.

Basic 16 bit microprocessors (e.g. 8086): Architecture and Min – Max mode.

Introduction to microcontrollers- architecture and instruction set of a typical microcontroller (e.g. PIC16F84 device). Features of popular controller (Processor 8031/8051) and its programming and interfacing.