



MICROPROCESSORS AND INTERFACING

PROF. SHAIK RAFI AHAMED

Department of Electrical and Electronics Engineering
IIT Guwahati

PRE-REQUISITES : Digital circuits

INTENDED AUDIENCE : Undergraduate, post graduate students, faculty and industry people

INDUSTRIES APPLICABLE TO : INTEL

COURSE OUTLINE :

Initially, an overview of 8086 microprocessor will be covered. Comparison with 8-bit processor will be discussed. Later, the detailed architecture of 8086 will be discussed. The 8086 instructions will be covered with examples. Simple to complex programs using 8086 assembly language will be discussed. A peripheral device 8255 will be discussed in detail. Then, the interfacing of 8086 with several peripherals such as key board, display, stepper motor will be covered.

ABOUT INSTRUCTOR :

Prof. Ahamed is a professor with more than 20 years teaching experience. He taught Microprocessors for undergraduate students at IIT Guwahati and other institutions. He has published several papers in reputed Journals like IEEE, Elsevier, IET and Springer.

COURSE PLAN :

- Week 1:** 8086 Architecture
- Week 2:** 8086 Pins and Signals
- Week 3:** 8086 Instruction Set I
- Week 4:** 8086 Instruction Set II
- Week 5:** 8086 Instruction Set III
- Week 6:** 8086 Instruction Set IV
- Week 7:** 8086 Programming I
- Week 8:** 8086 Programming II
- Week 9:** Memory Interfacing
- Week 10:** 8255 Interfacing Examples
- Week 11:** Interfacing of DC and Stepper Motors
- Week 12:** Interfacing of Key board, Display, USART