MANIPAL UNIVERSITY JAIPUR

School of Computing and Information Technology

Department of Computer Science and Engineering
Course Hand-out

Microprocessor | CS 1403 | 4 Credits

Session: 2015-2016 | Faculty: Tarun Jain

Course Outcomes: At the end of the course, students will be able to

CS1403.1: Interpret and illustrate the basic architecture of 16-bit 8086 Microprocessors & its need.
CS1403.2: Understand & Apply basic instruction set of 8086 to write the assembly language programming.
CS1403.3: Analyze and Implement various instruction timing, delay loops, Procedures and Macros.
CS1403.4: Understand the internal architecture and interfacing of different peripheral devices with 8086 microprocessor.
CS1403.5: Become proficient at working on 16-Bit microcontroller based systems and therefore develop employability skills.

A.   SYLLABUS

8086: internal architecture, programming the 8086, Addressing modes, Flags; Instruction Set: assembler and Assembler directives, Simple sequence programs, Jumps and conditional jumps, Loop instructions, Instruction timing and delay loops; String instructions, Writing and Using Procedures and Macros, 8255: Programmable Parallel ports and Handshake Input/ Output; Interrupts and Interrupt Responses: 8259 Priority Interrupt Controller, 8254 Software-Programmable Timer/counter; Software interrupts, Intel 8096-16-bitMicrocontroller: Overview; Instruction Set and Programming; Hardware features, , iRMX, ARM processor, Real-Time Executive: iRTX

B.   TEXT BOOKS

i. D. V. Hall, "Microprocessors and Interfacing", TMH, Revised Second Edition, 2006.
ii. N. S. Kumar, M. Saravanan, et. al. "Microprocessors and Microcontrollers", Oxford Higher Education, 2015.
iii. C. Hamacher, Z. Vranesic, "Computer Organization", TMH, 2002.
iv. Y. Liu, G.A. Gibson, "Microcomputer Systems- The 8086/8088 Family", PHI Learning private Ltd., 2011.