

CS 301: MICROPROCESSOR & INTERFACING (3-0-2: 4)

Microprocessor Architecture

Introduction to 8-Bit 8085 Microprocessor Architecture, Operation, Memory Interfacing, Interfacing I/O Devices.

Instruction and Timings

Instruction Classification, Overview of 8085 Instruction Set Timings And Operations Of Instruction Cycle, Data Processing Example.

Programming Methods and Techniques

Assembly Language Programming Using Different Programming Techniques Like Looping, Counting and Indexing, Time Delay Programs, Stack And Subroutines.

Parallel Input / Output and Peripheral Interfacing Applications

Basic Interfacing Concepts, 8255 Programmable Peripheral Interface, Interfacing Display, Keyboards, 8279 Programmable Keyboard/Display Interface, 8253/54 Programmable Timer, DMA Controller, Interrupt Controller, ADC And DAC Interfacing.

Introduction to 8086 Microprocessor

8086 Internal Architecture, Memory Segmentation, Addressing Modes, Basic Bus Timing During Read And Write Operation.

Suggested list of Experiments:

- 01) Introduction to 8085 Kit and Peripheral Boards.
- 02) Program set for Architecture Operations.
- 03) Program set for Logical and Decimal.
- 04) Program set for Subroutines And Delay.
- 05) Program set for Program Control.
- 06) Interfacing with 8255.
- 07) Interfacing with 8279.
- 08) Interfacing with 8253.
- 09) Interfacing with ADC/DAC.

Text Books

1. Gaonkar R. S., "Microprocessor Architecture, Programming and Applications with 8085", Penram International.
2. Hall D., "Microprocessor and Interfacing", Tata McGraw-Hill.

References

1. Ram B., "Fundamental of Microprocessor & Microcomputers", Dhanpat Rai Publications.
2. Leventhal Lance, "Introduction to Microprocessor - Software, Hardware and Programming", PHI.
3. Mathur A. P., "Introduction to Microprocessor", Tata McGraw-Hill.
4. Short K. L., "Microprocessor and Programming Logic", Pearson Education.