

For Syllabus, Question Papers, Notes & many More

EE6502 MICROPROCESSORS AND MICROCONTROLLERS

DETAILED SYLLABUS

UNIT I 8085 PROCESSOR

Hardware Architecture, pinouts – Functional Building Blocks of Processor – Memory organization – I/O ports and data transfer concepts– Timing Diagram – Interrupts.

UNIT II PROGRAMMING OF 8085 PROCESSOR

Instruction -format and addressing modes – Assembly language format – Data transfer, data manipulation& control instructions – Programming: Loop structure with counting & Indexing – Look up table - Subroutine instructions - stack.

UNIT III 8051 MICRO CONTROLLER

Hardware Architecture, pinouts – Functional Building Blocks of Processor – Memory organization – I/O ports and data transfer concepts– Timing Diagram – Interrupts- Comparison to Programming concepts with 8085.

UNIT IV PERIPHERAL INTERFACING

Study on need, Architecture, configuration and interfacing, with ICs: 8255, 8259, 8254,8237,8251, 8279, - A/D and D/A converters &Interfacing with 8085& 8051

UNIT V MICRO CONTROLLER PROGRAMMING & APPLICATIONS

Data Transfer, Manipulation, Control Algorithms& I/O instructions – Simple programming exercises- key board and display interface – Closed loop control of servo motor- stepper motor control – Washing Machine Control.

TEXT BOOKS

1. Krishna Kant, "Microprocessor and Microcontrollers", Eastern Company Edition, Prentice Hall of India, New Delhi , 2007.
2. R.S. Gaonkar, 'Microprocessor Architecture Programming and Application', with 8085, Wiley Eastern Ltd., New Delhi, 2013.
3. Soumitra Kumar Mandal, Microprocessor & Microcontroller Architecture, Programming & Interfacing using 8085,8086,8051, McGraw Hill Edu,2013.

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REFERENCES

1. Muhammad Ali Mazidi & Janice Gilli Mazidi, R.D.Kinely 'The 8051 Micro Controller and Embedded Systems', PHI Pearson Education, 5th Indian reprint, 2003.
2. N.Senthil Kumar, M.Saravanan, S.Jeevananthan, 'Microprocessors and Microcontrollers', Oxford,2013.
3. Valder – Perez, "Microcontroller – Fundamentals and Applications with Pic," Yeesdee Publishers, Tayler & Francis, 2013.

OBJECTIVES

- To study the Architecture of uP8085 & uC8051.
- To study the addressing modes & instruction set of 8085 & 8051.
- To introduce the need & use of Interrupt structure 8085 & 8051.
- To develop skill in simple applications development with programming 8085 & 8051.
- To introduce commonly used peripheral / interfacing.