

VL5007 ADVANCED MICROPROCESSOR AND ARCHITECTURES

DETAILED SYLLBUS

OBJECTIVES:

- To study 80386 and pentium processor
- To understand CISC and RISC Architectures
- To Learn ARM processor

UNIT I 80386 AND PENTIUM PROCESSOR

80386 PROCESSOR: Basic programming model – Memory organization – Data types – Instruction set - Addressing mode – Address translation – Interrupts –PENTIUM PROCESSOR: Introduction to Pentium processor architecture – Special Pentium Registers – Pentium Memory Management – Introduction to Pentium pro processor – Pentium Pro Special Features.

UNIT II CISC and RISC Architecture

Introduction to RISC architectures: RISC Versus CISC – RISC Case studies: MIPS R4000 – SPARC – Intel i860 - IBM RS/6000.

UNIT III ARM PROCESSOR

ARM Programmer’s Model – Registers – Processor Modes – State of the processor – Condition Flags – ARM Pipelines – Exception Vector Table – ARM Processor Families – Typical 3 stage pipelined ARM organization–Introduction to ARM Memory Management Unit.

UNIT IV ARM ADDRESSING MODES AND INSTRUCTION SET

ARM Addressing Modes – ARM Instruction Set Overview – Thumb Instruction Set Overview – LPC210X ARM Processor Features.

UNIT V PIC MICROCONTROLLER AND MOTOROLA 68HC11 MICROCONTROLLER

Instruction set, addressing modes – operating modes- Interrupt system- RTC-Serial Communication Interface – A/D Converter PWM and UART. MOTOROLA: CPU Architecture – Instruction set – interrupts- Timers- I 2C Interfacing –UART- A/D Converter – PWM

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2. Barry B Brey, “The Intel Microprocessor, Pentium and Pentium Pro Processor, Architecture Programming and Interfacing”, Prentice Hall of India, 2002.
3. Daniel Tabak, “Advanced Microprocessors”, McGraw Hill Inc., 1995.
4. David E Simon “An Embedded Software Primer”, Pearson Education, 2007
5. Gene .H.Miller . “Micro Computer Engineering,” Pearson Education, 2003.
6. Intel, “Microprocessors, Vol-I & Vol-II”, Intel Corporation, USA, 1992.

7. John. B.Peatman , “ Design with PIC Microcontroller , Prentice hall, 1997
8. Mohammed Rafiquzzaman, “Microprocessors and Microcomputer Based System Design”, Universal Book Stall, New Delhi, 1990.
9. Steve Furber, “ARM System-on-Chip Architecture”, Pearson Education, 2005 “ARM7 TDMI Technical Reference Manual”, ARM Ltd., UK, 2004 6.