

SARDAR PATEL UNIVERSITY
Programme & Subject: M.Sc (Instrumentation)
Semester: II
Syllabus with Effect from: June - 2010

Paper Code: PS02CINS02	Total Credit: 4
Title Of Paper: Advanced Microprocessor Systems	

Unit	Description in detail	Weightage (%)
I	8086 Microprocessor: Software Model, Memory Address Space, Input-Output (IO) Address Space, Data Organization, Segment Registers, Memory Segmentation, Dedicated, Reserved & General Use Memory, All Pointers & All Registers, Generating Memory Address, Addressing Modes, Debug Program & Commands, X86 Instructions: Data Transfer, Arithmetic, Logic, Shift, Rotate, Flag-Control, Compare, Jump, Subroutine- Handling, Loop-Handling & String Handling and Examples.	25%
II	System Clock, Bus Cycle & Time States, 8086 Minimum & Maximum Modes, 8086 Memory: Hardware Organization of Address Space, Interface Signals, Read & Write Bus Cycles, Interface Circuits, ROM, RAM, Flash Memory.	25%
III	8086 Minimum & Maximum Mode Input-Output: Types, Data Transfers, Instructions, Bus Cycles, Byte Wide Input-Output Ports using Isolated IO, Handshaking & Parallel Printer Interface, Interrupts: Types in detail, Instructions, 82C59A PIC.	25%
IV	Data Formats for Arithmetic Coprocessor, 80X87-Architecture, Instruction Set, Programming with Arithmetic Coprocessor, Introduction to MMX Technology & SSE Technology, Architecture: 80286, 80386 & 80486, Pentium Processor: Introduction, Memory System, New Instructions, Internal Structure of Pentium Pro, Features of: Pentium II, III & 4.	25%

Basic Text & Reference Books:-

- The 8088 and 8086 Microprocessors - Programming, Interfacing, Software, Hardware and Applications, Walter A. Triebel and Avtar Singh, Prentice Hall of India Private Limited, New Delhi.
- The Intel Microprocessors – Architecture, Programming and Interfacing, Barry B. Brey, Prentice Hall of India Private Limited, New Delhi.
- Microprocessors and Interfacing, Douglas V. Hall, Tata McGraw-Hill Publishing Company Limited.
- Microcomputer Systems: The 8086/8088 Family- Architecture, Programming and Design, Yu-cheng Liu and Glenn A. Gibson, Prentice Hall of India Private Limited, New Delhi.
- Microprocessor Microcomputer and their Applications, A. K. Mukhopadhyay, Narosa Publishing House.

