

SARDAR PATEL UNIVERSITY
Programme & Subject: M.Sc (Electronics & Communication)
Semester: II
Syllabus with Effect from: June - 2011

Paper Code: PS02CELC02	Total Credit: 4
Title Of Paper: 16-Bit Microprocessor & Its Application	

Unit	Description in Detail	Weightage (%)
I	Introduction to 16 bit Microprocessor family, stored program computers, computer instruction and bus cycles, computer codes, 8086/8088 Architecture, Segmented memory, Machine language instructions, Internal execution and timing.	20%
II	Data transfer instructions, Arithmetic instructions, Logical, shift and rotate instructions, Branch instructions, Loop instructions, NOP, HLT and flag manipulation instructions, Assembler directives.	20%
III	8086 System Connections And Timings: 8086 Hardware overview, Basic signal flow on 8086 buses, Analyzing a minimum mode system, 8086 addressing and address decoding, 8086 timing parameters.	20%
IV	8086 interrupts and interrupt responses, 8086 Interrupt types, Hardware and software considerations for using interrupts.	20%
V	Fundamental I/O considerations, Programmed and Interrupt I/O, Block transfers and DMA, I/O design example, Programmable parallel ports and handshake input/output, Interfacing microprocessors to keyboard and displays, D/A converter operation, Interfacing and applications, A/D converter types, Specifications and interfacing, Serial communication interfaces.	20%

Basic Text & Reference Books:-

- Microprocessors and Interfacing, Programming and Hardware: Hall Douglas V, Tata McGraw Hill.
- Microcomputer Systems: The 8086/8088 Family, Architecture, Programming and Design: Gibson Glenn A. and Liu Yu Cheng, Prentice Hall India.
- MCS,86 User's Manual : Santa Clara, Intel Corporation.
- The 8086 Premier: An Introduction to It's Architecture, System Design and Programming: Morse, Stephen P, Hayden Book Company.

