

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

<b>Paper Code: PS01CINS02</b>	<b>Total Credit: 4</b>
<b>Title Of Paper: 8 Bit Microprocessor &amp; Microcontroller Systems</b>	

Unit	Description in detail	Weightage (%)
I	8085 Microprocessor: Features, Architecture, Arithmetic & Logic Group, Register Group, Interrupt Control, Serial I/O Control, Instruction Register, Decoder & Control Group, Crystal Interface, Generation of Control Signals, Memory Interfacing & Instruction Set.	25%
II	Interfacing & Applications: 8155 Chip, 8255 Peripheral Interface & 8254 Interval Timer, 8259 Interrupt Controller, 8257 DMA Controller, DAC & ADC.	25%
III	8051 Microcontroller: Architecture, Internal Memory, Special Function Registers, I/O Ports, Timers / Counters, Serial Port Interface, Interrupt Structure & Addressing Modes.	25%
IV	8051 Instruction Set: Data Transfer, Arithmetic, Logical & Branch Group, Programming Examples, Assembler Directives, 8051 System Design & Applications.	25%

**Basic Text & Reference Books:-**

- Microprocessor – I, V. J. Vibhute & P. B. Borole, Tech – Max Publications.
- Microprocessors – Architecture, Programming and Applications with the 8085, Ramesh S. Gaonkar, Penram International Publishing.
- Embedded System Design using The 8051 Microcontroller Family, Satish Shah, Bension Education.
- The 8051 Microcontroller - Architecture, Programming and Applications, Kenneth J. Ayala, Penram International Publishing.

