SARDAR PATEL UNIVERSITY
Programme: B.Sc (Information Technology)
Semester: V
Syllabus with effect from: June - 2013

Paper Code: US05CINT06	Total Credit: 3
Title of Paper: Computer Architecture & Software Engineering	

Unit	Description in detail	Weightage (%)
I	**Central Processing Unit & Input – Output Organization** Introduction General Register Organization Stack Organization Register Stack Memory Stack Reverse Polish Notation Instruction Formats Zero-Address Instructions One-Address Instructions Two-Address Instructions Three-Address Instructions Peripheral Device Input – Output Interface I/O Bus and Interface Modules I/O versus Memory Bus	25%
II	**Computer Arithmetic & Memory Organization** Direct Memory Access DMA Controller DMA Transfer Multiplication & Division using Register Methods Memory Hierarchy Memory Unit Random-Access Memory Read Only Memory Virtual Memory Address Space and Memory Space Cache Memory Associative Mapping	25%
III	**Multiprocessor, Microprocessors & Microcomputers** Characteristics of Multiprocessor Interconnection Structure Time – Shared Common Bus Multiport Memory Crossbar Switch Multistage Switching Network Microprocessor Microprocessor Instruction Set Machine Language 8085 Machine Language 8085 Assembly Language High Level Language	25%

	Operating System	
IV	**Microprocessor Architecture and Microcomputer systems** Microprocessor Architecture and its operations Microprocessor – initiated Operations and 8085 Bus organization Internal Data Operations and 8085 Registers Memory and Instruction Fetch Memory Classification Input / Output Devices	25%

Basic Text & Reference Books:

- Computer System Architecture by M. Morris Mano PHI Publication
- Microprocessor Architecture, Programming and Applications with the 8085 - Third Edition by Ramesh S. Gaonkar Penram International