SARDAR PATEL UNIVERSITY
Programme & Subject: B.Sc. (CA & IT) – M.Sc. (CA & IT) Dual Degree
Semester – I
Syllabus with Effect from: June-2016

Paper Code: PS01CIIT02		**Total Credit: 3**
Title Of Paper: Computer Organization		
Unit	**Description in detail**	**Weightage (%)**
I	**Introduction to Computer Systems and Number Systems** Block diagram of a simple computer and significance of different functional units Evolution of computers Definitions of the terms : hardware, software Applications of computers Binary, octal, decimal, and hexadecimal number systems Conversion of numbers among binary, octal, decimal, and hexadecimal number systems Addition and subtraction of binary numbers	25%
II	**Representation of Information and Gates** **Logic Gates :** AND Gate OR Gate NOT Gate NAND Gate NOR Gate XOR Gate XNOR Gate Boolean Algebra Truth Tables up to three input signals Equation Simplification Circuit Equivalence Representation of integers Character codes (ASCII, Unicode) Error detection and correction codes	25%
III	**Parallel Instruction Execution and Memory Organization** Instruction execution cycle CPU organization **Introduction To Parallel Instruction Execution** Array processors Multiprocessors Multiple functional units Pipelining Primary memory – Introduction to RAM, ROM, Cache, Registers Secondary memory Various types and organization of secondary storage devices such as magnetic disks, optical disks, flash memories.	25%
IV	**Addressing Techniques and I/O Devices** Addressing techniques like Immediate, Direct, Indirect, Register, Indexing and Stack	25%

	Common types of Input / Output devices, such as Monitors, keyboard, mouse Printers (Line, Dot Matrix, Inkjet, Laser) Scanners	

Basic Text & Reference Books:-

Tanenbaum A.S. : Structured Computer Organization, Prentice-Hall of India Pvt. Ltd.

Rajaraman V. : Computer Fundamentals, Prentice-Hall of India Pvt. Ltd.