DCS-403 COMPUTER ORGANIZATION

Detailed Syllabus

Unit-1 Introduction: Digital computer generation, computer types and classifications, Stored program concept Von Neumann architecture , functional units and their interconnections, buses, types of buses and bus arbitration.

Unit-2 Number representation (sign magnitude, 1‟s and 2‟s complement), IEEE standard for floating point representation. Addition and subtraction of signed 2‟s complement numbers, Booths multiplication algorithm.

Unit-3 Central Processing Unit: Processor organization, general register organization, stack organization and addressing modes, Instruction types, Instruction formats, instruction cycle.

Unit -4 Input / Output: Peripheral devices: I/O devices, I/O interface, Interrupts, types of interrupts, Modes of Data Transfer: Programmed I/O, interrupt initiated I/O and Direct Memory Access.

Unit-5 Memory: Basic concept and hierarchy, semiconductor RAM memories, ROM memories. Cache memories: concept, address mapping and replacement. Auxiliary memories: magnetic disk, magnetic tape and optical disks Introduction to concept of virtual memory.