CLUSTER UNIVERSITY SRINAGAR
(SYLLABUS)

Course Code	BCA-CR4103
Course Title	Computer Organization
Semester	BCA 4th Semester
Course Type & Credits	Core Paper - 04 Credits (L) + 02 Credits (T) = 06 Credits

Unit I

Introduction: Function and structure of a computer, Functional components of a computer, Interconnection of components

Representation of Instructions: Machine instructions, Operands, Addressing Representation of Instructions: Machine instructions, Operands, Addressing modes, Instruction formats, Instruction sets.

Unit II

Processing Unit: Organization of a processor -Registers, ALU and Control unit, Data path in a CPU, Instruction cycle, Organization of a control unit -Operations of a control unit, Hardwired control unit, Microprogrammed control unit

Unit III

Memory Subsystem: Semiconductor memories, Memory cells -SRAM and DRAM cells, Internal Organization of a memory chip, Organization of a memory unit, Interleaved memories, Cache memory unit -Concept of cache memory, Mapping methods, Organization of a cache memory unit, Fetch and write mechanisms,

Unit IV

Input/Output Subsystem: Access of I/O devices, I/O ports, I/O control mechanisms Program controlled, Program controlled I/O, Interrupt controlled I/O, and DMA controlled I/O, I/O interfaces - Serial port, Parallel port, PCI bus, SCSI bus, USB bus,, I/O peripherals -Input devices, Output devices, Secondary storage devices

Suggested Reading

1. 1C Hamacher, Z Vranesic and S Zaky, "Computer Organization", McGrawHill, 2002
2. W Stallings, "Computer Organization and Architecture -Designing for Performance", Prentice Hall of India, 2002
3. D A Patterson clund J L Hennessy, "Computer Organization and Design The Hardware/Software Interface", Morgan Kaufmann,1998
4. J P Hayes, "Computer Architecture and Organization", McGraw-Hill, 1998

L = Lecture, P = Practical, T = Tutorial