MINOR
IN
COMPUTER SCIENCE & ENGINEERING

VI SEMESTER MINOR IN CSE					
Course No.	**Name of the Courses**	**L**	**T**	**P**	**Credit Hrs.**
CSM16101	Computer Organization	3	0	0	**6**
Total		**3**	**0**	**0**	**6**
Contact Hrs					**3**

CSM16101	**COMPUTER ORGANIZATION**	**3-0-0**

Introduction: Basics of computer, Von-Neumann Architecture, Generations of Computer, Basic Functional Blocks of a Computer, Instruction Execution, Register Transfer and Micro operations, Digital Circuits.

Data Representation: Signed number representation, fixed and floating point representations, character representation.

Computer Arithmetic: Integer Addition and Subtraction, Ripple carry adder, Carry look-ahead adder, etc. Multiplication - Shift-and-Add, Booth Multiplier, Carry save multiplier, etc. Division - Non-restoring and restoring techniques, Floating point arithmetic, Decimal arithmetic-Operations, BCD Adder, BCD Subtraction.

Organization of a Computer: Central Processing Unit (CPU) - Hardwired and micro-programmed design approaches, ALU organization, Instruction formats, Three-, two-, one- and zero-address instructions, Addressing modes- Immediate, Register direct and indirect, Indexed, Based-indexed.

Input-Output Organization: Input-output subsystems, I/O transfers- Program controlled, Interrupt driven and DMA, Privileged and non-privileged instructions, Introduction to Peripheral Devices and their Characteristics.

Memory Organization: Memory hierarchy, Main memory, Auxiliary memory, Cache memory- Organization, Mapping, Replacement, Writing policies, Virtual memory-Page table, Page replacement, Associative memory.

Programming Basic Computer: Programming Arithmetic and Operations, Assembly Language, Machine Language