Lecture Plan

Subject: **Computer Organization (CSM16101) [L-T-P = 3-0-0]**
Class: **VI Semester Minor in CSE**

Sl. No.	Name of the Topics	Number of Classes
1.	**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.	4
2.	**Data representation** Signed number representation, fixed and floating point representations, character representation.	4
3.	**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.	7
4.	**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	6
5.	**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	6
6.	**Memory Organization** Memory hierarchy, Main memory, Auxiliary memory, Cache memory-Organization, Mapping, Replacement, Writing policies, Virtual memory-Page table, Page replacement, Associative memory	6
7.	**Programming Basic Computer** Programming Arithmetic and Operations, Assembly Language, Machine Language	6
	TOTAL	**39**