

Lecture Plan

Subject: **Computer Organization (CSC14101) [L-T-P = 3-1-0]**

Class: **IV Semester B.Tech. (CSE) & Integrated M.Sc. (M&C)**

Sl. No.	Name of the Topics	Number of Classes
1.	Number Systems And Codes (Introduction, Data Representation, Number System Conversion, Complements, Integer/Floating Point Representation, Weighted and Un-weighted Codes, Alphanumeric Codes, Binary Addition, Binary Subtraction, Error Detection and Correction)	3
2.	Basics of Digital Circuits (Basic Logic Gates, Universal Logic Gates, Boolean Algebra, Combinational Circuits, Sequential Circuits)	5
3.	Register Transfer and Micro-operations (Register, Shift Register, Bus System (Multiplexer, Tri-State Buffer), Micro-operations (Arithmetic, Logic, Shift), Arithmetic Logic Shift Unit)	4
4.	Faster Algorithms (Addition, Subtraction, Booth Algorithm and Bit-Pair Recoding Method for Signed Operand Multiplication, Restoring and Non-Restoring Integer Division Method)	4
5.	Basic Computer Organization and Design (Process and Memory Interconnection, Instruction Codes, Instruction Cycle, Single-Bus Organization, Multiple Bus Organization, Addressing Modes)	3
6.	Control Unit (Hardwired and Micro-programmed)	3
7.	Memory Organization (Memory Hierarchy, Memory Types, Main Memory Architecture, Memory Address Map, Cache Memory, Virtual Memory, Paging, DMA)	5
8.	Input-Output Organization (Introduction, I/O Versus Memory Bus, Asynchronous Data Transfer, Modes of Transfer (Programmed I/O, Interrupt-Initiated I/O, DMA))	5
9.	Assembly Language Programming	6
10.	Computer Peripheral Organization	2
TOTAL		40