Subject: **Computer System Architecture** Branch: **MCA**
Semester: **2nd** Faculty Name: **Sucheta Panda**

Module	Topic	No. of Classes
I	1. Basic organization of computer, Block diagram	1
	2. Different Functional units, Execution of program	2
	3. Program execution with respect to functional units	1
	4. Basic operational concepts, Layers in computer	1
	5. Stored program concept, Main Memory	1
	6. Auxiliary Memory, Device Controllers	1
	7. CPU-Memory Communication, Performance	2
	8. Fetch Cycle, Decode Cycle	1
	9. Execute Cycle, Role of O.S	2
	10. Role of compilers	1
II	1. Assembly language programming	1
	2. Instruction set, Instruction Cycles	2
	3. Registers and storage	1
	4. Addressing modes, RISC architecture	3
	5. RISC versus CISC architectures	1
	6. Inside a CPU, Information representation	1
	7. Computer arithmetic & their implementation	2
	8. Control and data path	1
	9. Data path components, Design of ALU	1
	10. Controller Design	1
III	1. Memory and I/O access, Memory maps	1
	2. Read/Write operation, Programmed I/O	1
	3. Concept of Handshaking	1
	4. Polled and interrupt driven I/O	1
	5. DMA data transfer	2
	6. I/O subsystems, I/O devices	1
	7. I/O devices such as Disk, CD-ROM and Printer	1
	8. Interfacing with I/O devices	1
	9. Working of Keyboard	1
	10. Display interfaces	1
IV	1. Inside memory	1
	3. Memory organization, Static memory	1
	4. Dynamic memory, Cache memory	1
	5. Memory Hierarchy	1
	6. Cache memory access techniques	1
	7. Virtual memory	1
	8. Multiprogramming	1
	9. Multiprocessing	1
	10. Introduction to pipelined operation	1
	10. Introduction to pipelined architecture	1
	Total Number of Hours	48