Computer Organization and Architecture	L	T	P	Digital Electronics & Microcontrollers
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Course Objective: To learn and understand the organisatuion and architecture of computer system.

S. NO	Course Outcomes (CO)
CO1	Explain the working of computer systems & its basic principles
CO2	Design the basic structure of processor and control design
CO3	Discuss the basic concepts of pipelining techniques
CO4	Highlights the memory hierarchy and its organization and working of I/O devices with its interfacing

S. NO	Contents	Contact Hours
UNIT 1	Introduction to digital electronics: combinational circuits and sequential circuits. Basic machine Principle, Structure and representation of real world data. Subroutine, Branching & Macro facility	6
UNIT 2	Processor Organization, Information representation and Number format, Instruction cycle and Instruction format, Addressing modes, Arithmetic operation, timed point addition, subtraction, multiplication and division, ALU design, Parallel processing – Performance consideration, Pipeline processor	9
UNIT 3	Instruction sequencing and Interpretation, Hardware Control design method and Microprogrammed Control	9
UNIT 4	Memory device characteristic, Random access and serial access memories, Virtual memory – memory hierarchies, Page replacement policies, Segments, pages and file organization, High speed memories – cache and associative memory	9
UNIT 5	Memory device characteristic, Random access and serial access memories, Virtual memory – memory hierarchies, Page replacement policies, Segments, pages and file organization, High speed memories – cache and associative memory	9
	TOTAL	42