I Year I Semester	L	P	C
Code: 17CS103	4	0	3

COMPUTER ORGANIZATION AND ARCHITECTURE

UNIT-I:

Number Systems And Computer Arithmetic Signed And Unsigned Numbers, Addition and Subtraction, Multiplication, Division, Floating Point Representation Logical Operation, Gray Code, BCD Code, Error Detecting Codes. Boolean Algebra, Simplification of Boolean Expressions-Maps.

UNIT-II:

Combinational and Sequential Circuits Decoders, Encoders, Multiplexers, Half and Full Adders, Shift Registers, Flip-Flops, Binary Counters, Memory Unit.

UNIT-III:

Memory Organization Memory Hierarchy, Main Memory, Auxiliary Memory, Associative Memory, Cache Memory, Virtual Memory Concept.

UNIT-IV:

ALU Design Addition and Subtraction, Sign and Unsigned Numbers, Multiplication and Division Algorithms, BCD Adders.

UNIT-V:

Input–Output Organisation Peripheral devices, Input-Output Interface, Asynchronous data transfer, Modes of Transfer, Priority Interrupts, DMA, Input Output Processor, Serial Communication.

TEXTBOOKS:

1. ComputerSystemArchitecture,3/e,MorisMano,Pearson/PHI.
2. MicroProcessorandInterfacing,2/e,DouglasV.Hall,TMH.

REFERENCEBOOKS:

1. Digital Logic and Computer Organisation, Rajaraman, RadhaKrishnan, PHI.
2. MicroComputerSystems:8086/8088family, 2/e, Liu,Gibson,PHI.
3. ComputerOrganisationandArchitecture,7/e,Stallings,Pearson.