Course Title : Computer Organization			
Course Code : P18CS34	**Semester : 3**	**L :T:P:H : 4:0:0:4**	**Credits: 3**
Contact Period: Lecture: 52 Hrs, Exam: 3 Hrs		**Weightage: CIE:50%, SEE:50%**	

Course Content

Unit 1

Basic Structure of Computers: Computer Types, Functional Units, Basic Operational Concepts, Bus structures, Software, Performance, Multi processors and Multi computers, Historical perspective.

Self Study Component : Numbers, arithmetic operations and characters.

10 Hours

Unit 2

Instruction Set Architecture: Memory Locations and Addresses, Memory Operations, Instructions and Instruction Sequencing, Addressing Modes

Self Study Component : Stacks and Queues.

10 Hours

Unit 3

Assembly Language, Basic I/O operations, Subroutines, Additional Instructions, example programs.

Self Study Component : Additional instructions.

11 Hours

Unit 4

Basic Processing Unit: Fundamental Concepts, Execution of completeInstruction, Hardware control, and micro programed control.

Input/output organisation: Accessing I/O devices interrupts, direct memory access.

Self Study Component : Multiple bus organisations.

11 Hours

Unit 5

The Memory System: SomeBasic Concepts, Semiconductor RAM Memories, Read-Only Memories, Speed, size and cost, Cache memories.

Arithmetic: Multiplication of positive Numbers, Signed operand multiplication, Fast Multiplication, Floating-Point Numbers and Operations.

Self Study Component : Performance considerations.

10 Hours

Text Book:

1. Computer Organization, Carl Hamacher, Zvonko Vranesic, Safwat Zaky, 5th Edition, TMH

Reference Books:

1. Computer Organization & Architecture, William Stallings, 9th Edition, PHI, 2013.
2. Computer Systems Design and Architecture, Vincent P. Heuring & Harry F. Jordan, 2nd Ed. Pearson Education, 2004.

Course Outcomes :

1. Understand and analyze the machine instructions and program execution.
2. Understand and explain the I/O organisation
3. Understand and explain the memory system.
4. Apply the algorithms used for performing various arithmetic operations.

5. Understand and Explain the Concept of Basic Input/output

CO-PO Mapping

Semester: 3	Course code : P18CS34													Title : Computer Organization	
CO	**Statement**	**PO 1**	**PO 2**	**PO 3**	**PO 4**	**PO 5**	**PO 6**	**PO 7**	**PO 8**	**PO 9**	**PO 10**	**PO 11**	**PO 12**	**PO S1**	**PO S2**
CO 306.1	**Analyze** the machine instructions and program execution	3	2	2	1									3	3
CO 306.2	Understand and explain the I/O organisation	2	3	2	1									2	2
CO 306.3	Understand and explain the memory system	3	3	2	1									3	2
CO 306.4	Apply the algorithms used for performing various arithmetic operations	2	2	3	3	1								1	3
CO 306.5	Understand and Explain the Concept of Basic Input/output	3	3	3	3									2	2
C306		**2.6**	**2.6**	**2.4**	**1.8**	**1**								**2.2**	**2.4**