



**Paper Code** : CMO:304  
**Paper Name** : Computer Organisation

Teaching Hours (Per Week)		Examination Scheme		
TH. (hours)	Pr. (hours)	Internal	External	Total
		Th. (marks)	Th. (marks)	
4		30	70	100 (marks)

**Lectures = 68 Hours**

**1. Basic Computer Organization 12 Hrs.**

Instruction codes, Computer Registers, Computer Instructions, Timing and Control Signal generation, Instruction Cycle, Memory Reference Instructions, Input Output instructions, Interrupt cycle, Design of Basic Computer, Design of Accumulator Logic

**2. Central Processing Unit 16 Hrs.**

General Register Organization, Stack Organisation, Instruction formats, Addressing modes, Data Transfer and manipulation, program control, Parallel processing, Pipelining, Arithmetic pipeline, instruction pipeline, RISC pipeline, vector processing, array processors

**3. Computer Arithmetic 12 Hrs.**

Addition and Subtraction with signed magnitude data, Multiplication Algorithms, Division Algorithm

**4. Input-Output Organization 14 Hrs.**

Asynchronous Data transfer - Handshaking, Asynchronous Serial Transfer, Modes of transfer, Priority interrupt, DMA Controller and DMA Transfer

**5. Memory Organization 14 Hrs.**

Memory hierarchy, Main Memory, Cache memory, Virtual Memory concept



## **RECOMMENDED BOOKS**

### **MAIN READING**

1. M. Morris Mano, "Computer System Architecture", Pearson Education, 2008.
2. Carter Nicholas, "Computer Architecture", Schaun outline Sevies , Tata McGraw-Hill, 2008.
3. Peter Abel and N. Nizamuddin, "IBM PC Assembly Language and Programming", Pearson Education, 2009.

### **SUPPLEMENTARY READING**

1. J.P. Hayes, "Computer Architecture & Organization", Tata McGraw Hill
2. Michael J. Flynn, "Computer Architecture: Pipelined and Parallel Processor Design", Narosa Publishing House, 2002.