

PCCS4301 **COMPUTER ORGANIZATION** (3-0-0)

Module –I **12 Hrs**

Basic structures of Computers: Functional units, operational concepts, Bus structures, Software, Performance, Computer Architecture vs Computer Organization.

Machine Instruction and Programs: Memory location and addresses, Big-endian and Little-endian representation. Memory Operations, Instructions and instruction Sequencing, Addressing modes, Assembly Language, Basic Input/output operations, subroutine, additional Instructions.

Module – II **12 Hrs**

Arithmetic : Addition and subtraction of signed Numbers, Design of Fast Adders, Multiplication of positive Numbers, Signed-operand multiplication , Fast multiplication, Integer Division, Floating- point Numbers, (IEEE754 s...) and operations.

Module – III **12 Hrs**

Basic Processing units: Fundamental concepts, execution of complete Instructions, Multi bus organization, Hardwired control, Micro programmed control, RISC vs CISC architecture.

Memory System: Basic Concepts, cache Memory, Cache memory mapping policies, Cache updating schemes, performance consideration, Virtual memories, Paging and Page replacement policies, Memory Management requirement, secondary storage.

Text Books:

1. Computer Organization: Carl Hamacher, Zvonkovanec, Safwat Zaky, Mc Graw Hill, 5th Ed
2. Computer Organization and Design Hardware/ Software Interface: David A. Patterson, John L. Hennessy, Elsevier, 4th Edition.

Reference Book :

1. Computer Architecture and Organization: William Stallings, Pearson Education.
2. Computer Architecture and Organizations, Design principles and Application: B. Govinda Rajalu, TMH Publishing company Ltd.
3. Computer Architecture: Parhami, Oxford University Press
4. Computer system Architecture: Morris M. Mano PHI New Delhi.
5. Computer Architecture and Organization: John P. Hayes Mc Graw Hill introduction.
6. Structured Computer Organization: A.S. Tanenbum, PHI
7. Computer Architecture And Organization: An Integrated Approach, Murdocca, Hering Willey India, 1st Edition.