COURSE CODE: **IGIT– 402-CR9**
COURSE TITLE: **COMPUTER ORGANIZATION & ARCHITECTURE**
CREDITS **4+2 = 06**

Unit-I

Register Transfer and Micro- operation: Register transfer language, register transfer, bus and memory transfer, arithmetic micro-operations, logic micro operations, shift micro-operations.

Basic Computer Organization and Design: Instruction codes, computer registers, computer instructions, timing & control, instruction cycle, memory reference instructions, input – output and interrupts

Introduction to advanced computer Architectures, RISC vs CISC Architectures, Flynn's classification of computer systems,

Unit – II

Organization of centre processing unit, Hardwired and Micro programmed control unit, general register organization, Instruction format, I/O organization, bus architecture and programming registers

Pipeling, Arithmetic and instruction pipelining, Multiprocessor organizations (Loosely coupled vs Tightly-coupled),

Unit – III

Input-output organization, Peripheral Devices, I/O interface, Asynchronous Data Transfer, Modes of Transfer, Priority Interrupt, Direct Memory Access (DMA)

Unit –IV

Memory Organization and Hierarchy, Main memory, Addressing modes, Auxiliary memory, Associative memory, Cache memory, Virtual Memory, Hit-miss ratio, Magnetic Disk and its Performance, Magnetic Tape.

Recommended Books:

1) Computer Organization and Architecture, William Stalling, Pearson Education
2) Computer Organization and Architecture, Linda and Julia Jones, Barlett publications
3) Digital Logic and Computer Design, M Morris Mano ,Pearson Education
4) Computer Organization and Architecture,AP Godse and DA Godse,Technical publications