

**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

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

**Unit – III**

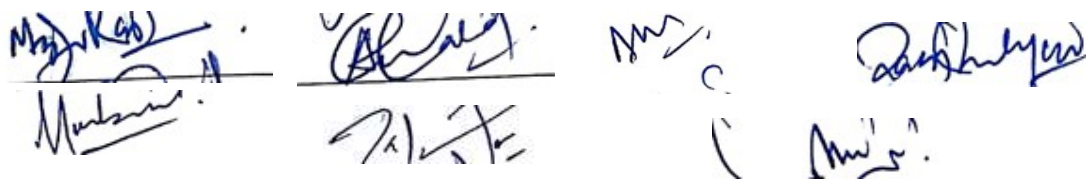
Input-output organization, Peripheral Devices, I/O interface, Asynchronous Data Transfer, Modes of Transfer, Priority Interrupt, Direct Memory Access (DMA)

**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



The image shows four handwritten signatures or initials arranged horizontally. From left to right: 1) A signature that appears to be 'M. J. K. G.' with a horizontal line underneath. 2) A signature that appears to be 'A. R. G.' with a horizontal line underneath. 3) A signature that appears to be 'M. S.' with a horizontal line underneath. 4) A signature that appears to be 'D. S. K. G.' with a horizontal line underneath. Below each signature are some additional handwritten marks or initials.