

COMPUTER ORGANIZATION & ARCHITECTURE

Unit I:

Digital logic circuits: Digital computers – Logic Gates – Boolean Algebra – Combinational circuits and Flip Flops – Sequential Circuits.

Unit II:

Digital components: Integrated Circuits - Decoders – Multiplexers – Registers and Counters – Memory Unit.

Unit III:

Data representation: Data Types – Complements – Fixed point & Floating point representation – Binary Codes - Error Detection Codes.

Unit IV:

Register Transfer – Bus and Memory Transfer – Arithmetic, Logic & Shift Micro operations - Arithmetic Logic Shift Unit.

Unit V:

Central Processing Unit: General Register Organization – Stack organization – Instruction formats – Addressing modes – Program Control - Reduced Instruction Set Computing (RISC).

Text Book:

Computer System Architecture: M.Morris Mano, Third Edition, Prentice Hall of India.

Reference Book:

Computer Organization and Programming - C.W. Gean.