Computer Organisation & Architecture
Code: MCA101
CREDITS: 4

Data and number representation- binary-complement representation, BCD-ASCII, conversion of numbers from one Number system to the other, (r-1)'s & r's complement representation, binary arithmetic.

Structure of a digital machine (VON-Neumann architecture), Logic gates, basic logic operations, truth tables, Boolean expression, simplification.

Combination circuits, adders, multiplexer, Sequential circuits, Registers.

ROM, PROM, EPROM and dynamic RAM, Digital Components, bus structure- Address bus, Data bus & DMA controller.

Karnaugh Map, Coder, Decoder, Counter – Asynchronous & Synchronous.

Flip Flops – RS, JK, and D &T.

Basic Computer Organisation & Design, Micro-programmed Control.

Data representation, Register transfer & micro-operations, Central processing unit, Pipeline & vector processing, Computer arithmetic.

Input - output organisation, Memory organisation, Microprocessors (8085), Personal Computing.

CPU architecture, instruction format, addressing mode, stacks and handling of interrupts. Assembly language – Elementary problems