

# *Syllabus for B.Sc-IT Course*

## *at S.P.College*

### SEMESTER -- IV

#### **COURSE TITLE :- COMPUTER ORGANISATION COURSE CODE--BIT—401 & ARCHITECTURE.**

##### UNIT-I

Basic structure of computer, and basic operational concepts, registers (general purpose registers, accumulator, status register, program counter, stack pointer, word size and register size). Data movement among registers.

##### UNIT-II

Computer instructions (input /output, Instructions, register referenced instructions, direct addressing mode memory referenced instructions), How an instruction is executed? Instruction formats, bus structure and addressing modes.

##### UNIT-III

ALU & control unit organization: simple ALU organization, floating point ALU, Arithmetic processors, control unit organization: functional requirements of a control unit, structure of a control unit, micro-programmed and hardware control unit.

##### UNIT-IV

I/O organization : peripheral devices ( input/output devices ) , synchronous and asynchronous communication , I/O ( input/output ) interface , ( serial and parallel points ) , data transfer and synchronization , programmed I/O , interrupt –initiated I/O , DMA ) , interrupt ( software and hardware ) .

Main memory (ROM, RAM – static and dynamic RAM), design of main memory (RAM 4x4), virtual memory (paging & page replacement).

#### **Recommended Books:**

1. V.C.Hamacher, A.G. Vranesic and S.G. Zaky, "Computer Organisation"
2. J.P.Hayes, "Computer System Architecture", McGraw Hill
3. Morris Mano , "Computer System Architecture", Prentice Hall Of India