

B. Sc. IT (HONS.) 2020: 4th Semester				
Course	Credits-06		Total Marks- 90	
	Theory	Practical	Theory	Practical
BIT420C1: COMPUTER ORGANIZATION & ARCHITECTURE	04	02	60	30

THEORY: 4 CREDITS;

MAX. MARKS: 60

MIN. MARKS: 24

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? Instructions 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, interrupts (software and hardware). Main Memory (ROM, RAM-static and dynamic RAM), design of main memory (RAM 4x4), virtual memory (paging & page replacement).

PRACTICAL: 2 CREDITS;

MAX. MARKS: 30

MIN. MARKS: 12

Note: The Practical Component shall be based on the Unit-I to Unit-IV

REFERENCES:

1. V.C Hamacher, A.G Vranesic and S.G Zaky, "Computer Organization"
2. J.P Hayes," Computer System Architecture", McGrawHill
3. Morris Mano," Computer System Architecture", Prentice Hall of India