



# Marwadi University

## Bachelor of Computer Application

### Semester II (w.e.f. July, 2016)

**Subject Code: 05BC0203**

**Subject Name: Computer Organization and Architecture**

#### Learning Objectives:

1. To understand basic organization of digital computer.
2. To understand various digital circuits and components.
3. To understand basics of CPU.
4. To understand basics of IO.
5. To understand basics of Memory.

#### Prerequisites:

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Unit	Course Content	Hours
1	<b>Digital Logic Circuits</b> Digital Computers, Logic Gates, Boolean Algebra, Map Simplification, Combinational Circuits (Half Adder, Full Adder), Flip-Flops, Sequential circuits	12
2	<b>Digital Components</b> Integrated Circuits, Decoders, Multiplexers, Registers, Shift Registers, Binary Counters	08
3	<b>Basic Computer Organization and Design</b> Instruction Codes, Computer Registers, Computer Instructions, Memory reference Instructions, Input – Output Instructions	06
4	<b>Central Processing Unit</b> General Register Organization, Stack Organization, Instruction Formats, Addressing Modes	08
5	<b>Input – Output Organization</b> Peripheral Devices, Input – Output Interface, Asynchronous Data Transfer, Modes of Transfer, DMA	08
6	<b>Memory Organization</b> Memory Hierarchy, Main Memory, Auxiliary Memory, Cache Memory	06

#### Text Book(s):

1. "Computer System Architecture", M.Morris Mano

#### Reference Book(s):

1. "Computer System Architecture", John. P. Hayes.
2. "Computer Architecture and parallel Processing ", Hwang K. Briggs