

Roll No. ....

Exam Code : J-19

Subject Code—0410

**M.C.A. (Second Year) EXAMINATION**

(Batch 2009 Onwards)

(5 Years Integrated Course)

COMPUTER ORGANIZATION AND  
ARCHITECTURE

MCA-204

*Time : 3 Hours*

*Maximum Marks : 70*

**Section A**

**Note :** Attempt any *Seven* questions.      **7×5=35**

1. What do you mean by instruction cycle and interrupt cycle ?
2. Design the hardware of addition and subtraction of fixed point signed magnitude number.

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**P.T.O.**

3. Explain DMA.
4. Define Cache Memory.
5. What is Cache Coherency and how is it eliminated ?
6. Explain different types of addressing mode.
7. Difference between microoperation and microprogram.
8. What is instruction format ? Explain different types of format in detail.
9. Difference between direct and indirect address instruction.
10. Define Autoincrement and Auto decrement instruction with suitable example.

### Section B

**Note :** Attempt all the questions.

11. Explain different types of registers used in computer system with suitable examples. **12**

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*Or*

What is the role of control unit in execution of an instruction ? What are the input and output control unit ?

12. What is the role of control unit in execution of an instruction. Explain with suitable example and diagram. **12**

*Or*

Explain the operation of DMA using block diagram. Give an example of DMA mode of data transfer.

13. Define the following :
  - (a) Arithmetic Unit **3**
  - (b) Input-Output Organization **3**
  - (c) Difference between Synchronous and Asynchronous data transfer **5**

*Or*

Why memory is organized in hierarchy ? Write the factors for selecting a particular memory type with the help of diagram.

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**140**