Roll No. ..... **Exam Code : J-19**

Subject Code—0380

M.C.A. (Second Year) EXAMINATION

(5 Years Integrated Course) (DE)

(For Batch 2009 Onwards) (Main & Re-appear)

COMPUTER ORGANIZATION AND ARCHITECTURE

MCA-204

Time : 3 *Hours* *Maximum Marks :* 70

Section A

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

1. Explain the role of interrupts in Computer Organization.

2. What is instruction cycle ? Briefly explain with the help of state diagram.

3. What is micro operation ? Briefly explain the arithmetic micro-operation.

4. Differentiate between hardwired and micro-programmed computers.

5. Explain the different types of interrupts.

6. What is register transfer language ? Explain the basic symbols used in register transfer.

7. Distinguish between circular shift and arithmetic shift with proper example.

8. Draw and explain the organization of a typical ROM chip.

9. Discuss the replacement algorithm for cache memory.

10. Explain about the Daisy chain arbitration.

Section B

Note : Attempt all the questions.

11. How computer instructions are classified ? List and explain about them with examples. **12**

Or

Draw the block diagram of a DMA controller and explain its functioning ? How does a DMA controller improve the performance of a computer ? **12**

12. What is addressing modes ? Discuss about different addressing modes with examples. **12**

Or

How the data transfer to and from peripherals is done ? Discuss with neat diagrams and examples. **12**

13. Draw and explain the fully associative cache organization. **11**

Or

What is Virtual Memory ? Explain how the logical address is translated into physical address in the virtual memory system with a neat diagram. **11**