

M.C.A. DEGREE I SEMESTER EXAMINATION, NOVEMBER 2009**CAS 2104 COMPUTER ORGANIZATION**

Time : 3 Hours

Maximum Marks : 50

PART – A(Answer **ALL** questions)(Each question carries **TWO** marks)

(15 x 2 = 30)

- I. (a) Convert the following numbers into binary using two's complement.
 (i) 43 (ii) - 39
 (b) Distinguish between multiprocessors and multicomputers.
 (c) What is a flip-flop?
- II. (a) What are the basic addressing modes?
 (b) What is an interrupt?
 (c) What do you mean by Direct Memory Access (DMA)?
- III. (a) What is a virtual memory system?
 (b) Distinguish between RAM and ROM?
 (c) Mention from secondary storage devices that are in use today.
- IV. (a) What is microprogramming?
 (b) Distinguish between a line printer and a page printer. Give one example for each.
 (c) Distinguish between a program counter and a Memory Address Register.
- V. (a) Mention two differences between Intel 80486 and Intel Pentium chips.
 (b) What is the approximate number of transistors in an Intel 80386 chip.
 (c) Mention atleast two 64 bit processor chips that are available in the market.

PART – B(Each question carries **FOUR** marks)

(5 x 4 = 20)

- VI. A. What are the functional components of a computer? Using a block diagram explain the working of a computer.
OR
 B. (a) Briefly explain the concept of normalization in floating point number representation using an example.
 (b) Give the IEEE floating point standard.
- VII. A. Briefly explain how information is written onto a disk using a DMA controller.
OR
 B. In a typical single-bus architecture explain how two eight bit numbers are fetched, added and the sum written to the first location.
- VIII. A. Briefly describe how virtual memories are implemented using paging.
OR
 B. Briefly describe the direct mapping technique used in Cache memories.
- IX. A. Briefly explain how control signals are generated in a typical Hardwired control unit using a block diagram.
OR
 B. Using a block diagram explain the working of a video terminal.
- X. A. Using a block diagram explain the architecture of Intel 8086 microprocessor.
OR
 B. Briefly describe the advancements made in each of the X86 processor in the family of Intel processors starting from 8086. Also comment on the present Intel processors and also on the Intel processors that are going to be introduced in the near future.