

C 17329

Name.....

Reg. No.....

SECOND SEMESTER M.C.A DEGREE EXAMINATION, AUGUST 2006

MCA 2K 203—COMPUTER ORGANIZATION

(New Scheme)

Time : Three Hours

Maximum : 100 Marks

*Answer any five full questions.
All questions carry equal marks.*

1. (a) Explain the format of a MIPS instruction. How is the statement $f = (g + h) - (i + j)$ converted to MIPS format.
(b) Discuss the four major classes of 8086 instructions. Give *two* examples of instructions in each class.
2. (a) Explain the meaning of the following 8086 instructions :—
 - (i) JMP.
 - (ii) POP.
 - (iii) LODS.
 - (iv) XOR.
 - (v) SHL.
(b) Explain how the performance of a computer can be measured. How can the performance be increased ?
3. (a) Explain the building blocks to construct an arithmetic and logic unit.
(b) Explain any *one* multiplication algorithm. Illustrate with an example.
4. (a) Explain the Booth's algorithm with the help of an example.
(b) Explain how a floating point number is represented. Give an example.
5. (a) What do you mean by data paths in a processor ? How is an instruction fetched from memory by a processor using a data path ?
(b) What is meant by microprogramming ? Explain the microprogrammed control unit.
6. (a) Explain what is meant by virtual memory. How is the logical address converted to the corresponding physical address ?
(b) What is meant by a Cache miss ? How is it handled ?
7. (a) Discuss the types of I/O devices and their characteristics.
(b) Discuss the methods of transferring data between a I/O device and memory.

(5 × 20 = 100 marks)