

C 48103

(Pages : 2)

Name.....

Reg. No.....

**FOURTH SEMESTER B.TECH. (ENGINEERING) DEGREE EXAMINATION
JUNE 2008**

CS/IT 2K 405/PTCS 2K 403—COMPUTER ORGANIZATION AND DESIGN

Time : Three Hours

Maximum : 100 Marks

Part A

Answer all questions.

- I. 1 Give a brief description about the first electronic computers.
- 2 Explain briefly about MIPS addressing modes.
- 3 With the help of examples, explain signed addition and subtraction of two numbers.
- 4 Discuss about floating point representations.
- 5 Explain the concept of instruction memory program counter and adder with the help of diagrams.
- 6 List different issues related with Pentium pro implementation.
- 7 What do you mean by virtual memory ?
- 8 What are the features of the caches present in DEC station 3100 ?

(8 × 5 = 40 marks)

Part B

- II. (a) (i) What do you mean by benchmarking ? Also explain SPEC 95 benchmarks. (8 marks)
(ii) List different issues for representing instructions in the computers. (7 marks)
Or
(b) (i) List important instructions for making decisions in the computers. (8 marks)
(ii) What are supporting procedures in computer hardware ? (7 marks)
- III. (a) Explain signed and unsigned numbers in detail. Give examples for :
(i) A decimal value of an 8 bit two's complement number.
(ii) Negation of an 8 bit number.
(iii) Converting a binary number to hexadecimal. (15 marks)
Or
(b) Explain construction of an ALU. (15 marks)
- IV. (a) Explain simple cycle implementation of datapaths in detail. (15 marks)
Or
(b) What do you mean by micro-programming ? How it is implemented ? (15 marks)

Turn over

V (a) Explain design of an I/O system in detail.

(15 marks)

Or

(b) What do you mean by buses ? With the help of diagrams, explain types of buses. How they are used for connecting I/O devices to memory and processors ?

(15 marks)

[4 × 15 = 60 marks]