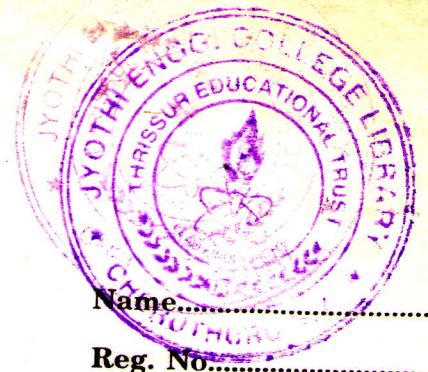


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Name.....

Reg. No.....



**FOURTH SEMESTER B.TECH. (ENGINEERING) DEGREE
EXAMINATION, JUNE 2005**

CS 2K 405/IT 2K 405/PTCS 2K 403. COMPUTER ORGANISATION AND DESIGN

(New Scheme)

Time : Three Hours

Maximum : 100 Marks

Answer all questions.

1. (a) List the technologies used for various computer generations.
(b) Explain how the connection is made between main memory and processor with a neat diagram.
(c) What are the various ways of representing numbers ? Give examples.
(d) Draw the flowchart for floating point multiplication.
(e) Write the control sequence for an unconditional branch instruction.
(f) What are the advantages and disadvantages of using single data path ?
(g) Define the following :—
 - (i) Hit rate.
 - (ii) Miss time.
 - (iii) Miss penalty.
- (h) Explain the characteristics of magnetic disks.

(8 × 5 = 40 marks)
2. (a) Discuss the various issues related to time as performance measure.

Or

- (b) Classify the instructions based on functionality. Explain with examples.

(15 marks)
- 3. (a) Explain how two signed numbers can be multiplied using booth algorithm. Multiply the following numbers :
011010 (multiplier),
110110 (multiplicand).

Or

- (b) Design a carry look ahead adder and explain why it is called as a fast adder.

(15 marks)
- 4. (a) Explain the different ways of generating control signals for executing instructions.

Or

- (b) Distinguish between interrupts and exceptions. Explain in detail, how exceptions are handled.

(15 marks)

Turn over

5. (a) Explain in detail about virtual memory management.

Or

(b) What are the advantages of bus organization ? Classify the types of buses and explain each type.

(15 marks)

[4 × 15 = 60 marks]

Fig. 1.