S.E. (IT) (First Semester) EXAMINATION, 2010 COMPUTER ORGANIZATION (2008 COURSE)

Time : Three Hours

Maximum Marks : 100

- **N.B.** :— (i) Answer three questions from Section I and three questions from Section II
 - (*ii*) Answers to the two sections should be written in separate answer- books.
 - (iii) Neat diagrams must be drawn wherever necessary.
 - (iv) Figures to the right indicate full marks.
 - (v) Assume suitable data, if necessary.

SECTION I

(a) Explain Booth's Algorithm to multiply the following pair of two's signed complements numbers : [10]
 A = 110011 (Multiplicand)

B = 101100 (Multiplier).

(b) Explain floating point multiplication with the help of flow chart as well as algorithm. [8]

Or

(a) Perform the following division using restoring division algorithm : [8]
 Dividend = 1001

Divisor = 0101.

P.T.O.

- (b) Explain IEEE floating point formats. [5]
- (c) Explain the flow chart for floating point addition. [5]
- **3.** (a) Draw and explain architecture of 8086. [8]
 - (b) Draw and explain read cycle of 8086 with a neat diagram. [8]

Or

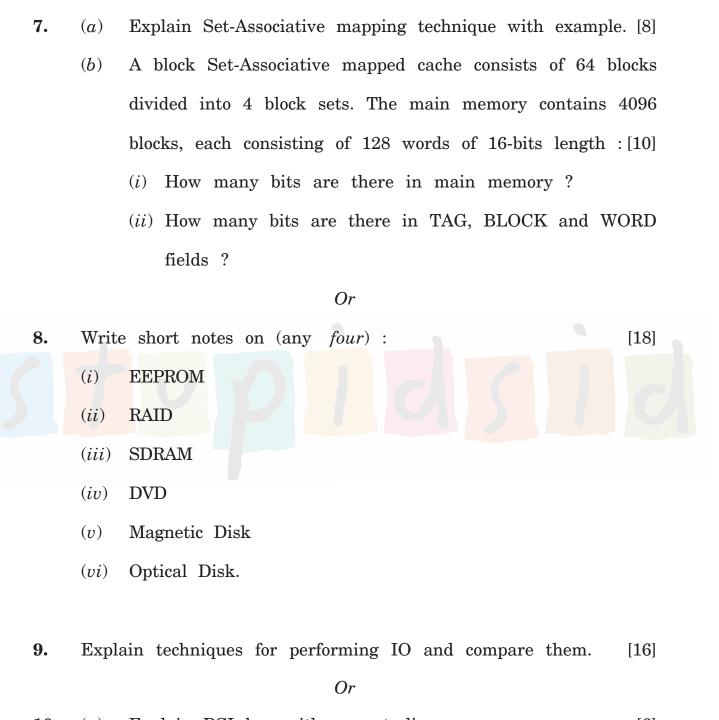
- (a) State the factors in the design of instruction format. Draw instruction format for intel processors and explain various fields in it.
 - (b) State and explain any 4 addressing modes with examples forINTEL processors. [8]
- 5. (a) Write the control sequence for the following instruction : [8] MOV (R3), R1.
 - (b) Draw and explain micro-programmed control unit. [8]

Or

- 6. (a) Write a micro-program of micro-instructions for the following instruction : [8]
 ADD (R3), R1.
 - (b) Compare the following : [8]
 - (i) Hardwired and micro-programmed control unit
 - (ii) Horizontal and Vertical micro-Instruction format.

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SECTION II



10. (a) Explain PCI bus with a neat diagram. [6]

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(b) Explain functions and features of 8255 and 8251. [10]

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P.T.O.

- (a) Compare closely coupled and loosely coupled Multiprocessor configurations. Explain loosely coupled multiprocessor configuration. [10]
 - (b) Explain instruction level pipelining with a diagram. [6]

Or

- 12. Write short notes on the following (any four) : [16]
 - (i) NUMA
 - (ii) UMA
 - (iii) RISC
 - (iv) CISC
 - (v) Cluster
 - (vi) Superscalar Architecture.