

Roll No.

2117

B. E. (4th Semester) (I. T.)

Examination, May, 2012

COMPUTER ARCHITECTURE AND ORGANISATION

Paper : CSE-210-E

Time : Three Hours]

[Maximum Marks : 100

Before answering the question, candidates should ensure that they have been supplied the correct and complete question paper. No complain in this regard, will be entertained after examination.

Note : Attempt any five questions.

1. (a) In a new number system, x and y are successive digits such that $(x\ y)_r = (25)_{10}$ and $(y\ x)_r = (31)_{10}$ find x, y, r . 5
- (b) Realize OR and AND gate with X-OR gate only. 5
- (c) Prove that $(A + B) (\bar{A} + C) (B + C) = AC + B\bar{A}$. 5
- (d) Compare encoder and multiplexer. 5

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2. (a) Why do we require Master Slave flip flop ? Explain.

8

(b) Explain the working of ring counter. 6

(c) Briefly explain the working of MIPS. 6

3. (a) Classify the compilers as per Flynn's classification.

10

(b) Explain the concept and significance of operating system. 5

(c) What is the transfer rate of an eight track magnetic tape whose speed is 120 inches per second and whose density is 1600 bits per inch. 5

4. (a) What additional logic is required to give a no-match result for a word in an associative memory when all key bits are zeros. 7

(b) Compare and contrast RISC & CISC processors. 8

(c) Write a program in assembly level language of 8086 to add 10 numbers stored from memory location 2000 H and store the result at 3000 H. 5

- (c) Differentiate between Static and dynamic memories. 5
7. (a) What are the goals of parallelism ? 7
- (b) Differentiate between processor level and instruction level parallelism. 7
- (c) Explain the concept of direct mapped cache organization. 6
8. Write short notes on : 20
- (a) Types of interrupts in 8086.
- (b) Addressing modes of 8086.
- (c) Instruction cycle for MOV AX, [2438H].
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