

1C7101	Roll No. : _____	Total Printed Pages : 2
	1C7101	
M. C. A. (Sem. I) Examination, January - 2011 Computer Architecture		

Time : 3 Hours]

[Total Marks : 80

[Min. Passing Marks : 32

Attempt all questions.

Marks of questions are indicated against each question.

Use of following supporting material is permitted during examination.
(Mentioned in form No. 205)

1. _____ Nil	2. _____ Nil
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1 Answer in one line :

- (i) What is Assemble?
- (ii) Convert $(f32)_{16} = (\quad)_{10}$
- (iii) How many minimum NAND gate will be required to construct XOR gate.
- (iv) What is difference between latch and flipflop?
- (v) Differentiate sequential circuit and combinational circuit.
- (vi) Define Max terms and Min terms.
- (vii) Write down the advantages of Paging technique.
- (viii) Give the various types of interrupts.
- (ix) What is OCR?
- (x) Give the difference between pseudo code and Machine code.

1x10=10

2 Answer each part in Maximum 50 words :

- (i) Prove De Morgan theorem.
- (ii) Discuss Universal shift register.
- (iii) Write down the advantages and disadvantages of cache memory.
- (iv) Design a full adder with two half adder.
- (v) Write a short note on Macroinstruction.

3x5=15



- 3 Answer each part in Maximum 150 words :
- (i) Implement all logic gates function with the help of NOR Gate.
 - (ii) Give any Method to represent a floating point no. in 16 bit system.
 - (iii) Implement a boolean function with the help of Gates for $F(w, x, y) = \sum(0, 2, 5, 6)$
 - (iv) What are the different addressing modes?
 - (v) Write a program to find the largest number in given data array.
- 4x5=20**

- 4 (a) What is the race around condition and what are the remedies for that? 10
- (b) Write a detailed note on virtual memory. 10

- 5 Explain following :
- (a) Vector and Array processing. 15
 - (b) I/O interfacing and 8085 instruction set. 15

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