

	MIDTERM EXAMINATION FALL 2006 CS501 - ADVANCE COMPUTER ARCHITECTURE	Marks: 45 Time: 60min
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StudentID/LoginID: _____

Student Name: _____

Center Name/Code: _____

Exam Date: _____

Please read the following instructions carefully before attempting any of the questions:

1. Attempt all questions. Marks are written adjacent to each question.
2. Do not ask any question about the contents of this examination from any one.
 - a. If you think that there is something wrong with any of the questions, attempt it
to the best of your understanding.
 - b. If you believe that some essential piece of information is missing, make an
appropriate assumption and use it to solve the problem.
 - c. Write all steps, missing steps may lead to deduction of marks.
3. Exam is Closed Book. No handouts or extra material is allowed in exam hall other than rough sheet which will be provided by the examiner.

For Teacher's use only										
Question Marks	1	2	3	4	5	6	7	8		Total

The code size of 2-address instruction is _____.

- ▶ 5 bytes
- ▶ 7 bytes
- ▶ 3 bytes
- ▶ 2 bytes

Question No: 2 (Marks: 1) - Please choose one

The data movement instructions _____ data within the machine and to or from input/output devices.

- ▶ Store
- ▶ Load
- ▶ Move
- ▶ None of Above

Question No: 3 (Marks: 1) - Please choose one

Register-register instructions use _____ memory operands out of a total of 3 operands

- ▶ 1
- ▶ 3
- ▶ 0
- ▶ 2

Question No: 4 (Marks: 1) - Please choose one

_____all memory systems are dumb, in that they respond to only two commands: read or write.

- ▶ Virtually
- ▶ Logically
- ▶ Physically
- ▶ None of Above

Question No: 5 (Marks: 1) - Please choose one

Flip-flop is a _____ device, capable of storing one bit of Information

- ▶ Bi-stable
- ▶ Unit-stable
- ▶ Stable
- ▶ Storage

Question No: 6 (Marks: 10)

The following table shows a partial summary of the ISA for the SRC. Write an assembly language program using the SRC assembly language to evaluate the expression:

$$Z = (9 + 32a) - (16b + c)$$

Note: a, b and c are names of memory locations. Your program should not change the source operands. Do not worry about the contents of a and b. There is no need to worry about assembler directives. Comments in your code may be helpful.

Question No: 7 (Marks: 15)

What is function of control signals in CPU, briefly describe the control signals required for fetch operation in SRC.

Question No: 8 (Marks: 15)

Describe the three categories of hazards.