

The American University in Cairo
Computer Science & Engineering Department
CSCI 106-02&07

Dr. KHALIL	Quiz-II	Spring 2009
Last Name :		ID:
First Name:		Form - I

EXAMINATION INSTRUCTIONS

- * Do not turn this page until asked to do so.
- * Exam time is **30** minutes.
- * Put the answers on the same question sheet, do not use any additional papers, even for scratch.
- * Write your name, ID, section no. in the indicated places.
- * Read the exam instructions.
- * Read the honesty policy.
- * Sign the following statement.

Academic Integrity Policy

Cheating in Exams is a violation of the Academic Integrity policy of AUC. Whispering, talking, looking at someone else's paper, or copying from any source is considered cheating. Any one who does any of these actions or her/his answers indicates that she/he did any of them, will receive a punishment ranging from zero in this exam to failing the course. If repeated, it may lead to dismissal from AUC.

I have read the honesty policy and exam instructions and I am presenting this exam as entirely my effort.

Signature: _____

DO NOT USE THIS SECTION

Question	Points	Grade
1	10	
2	10	
3	10	
4	10	
Total	40	

Question 1 (10 points)

A result of $(AD)_{16}$ was produced in an accumulator of 8-bit structure. Give the value of this result in decimal notation for each of the following cases:

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1. The computer is performing its operations in two's complement integer format:

[illegible]

2. The computer is performing its operations in sign-magnitude integer format:

[illegible]

Question 2 (10 points)

Subtract **35** from **17** using 8-bit two's complement computation.

[illegible]

Question 3 (10 points)

Perform the following conversion operations to the number systems indicated:

$$(1101)_{10} = (\quad)_2 = (\quad)_{16}$$

[illegible]

Question 4 (10 points)

Tick only one possible answer for each of the following:

- 1) The smallest integer number that can be stored in 16-bit unsigned format is:
- a. -0 ☐
 - b. -128 ☐
 - c. 127 ☐
 - d. none of the above ☐
- 2) In binary: $1001 + 11101 = ?$
- a. 101000 ☐
 - b. 100110 ☐
 - c. 110110 ☐
 - d. none of the above ☐
- 3) $(101000011)_2$ is equivalent to:
- a. $(503)_8$ ☐
 - b. $(503)_{16}$ ☐
 - c. $(554)_{10}$ ☐
 - d. None of the above ☐
- 4) The maximum signed integer that can be stored in 8-bit two's complement is:
- a. 255 ☐
 - b. 127 ☐
 - c. 128 ☐
 - d. None of the above ☐
- 5) $(1101100001111)_2$ is equivalent to:
- a. $(1077)_8$ ☐
 - b. $(1B0F)_{16}$ ☐
 - c. 128 ☐
 - d. None of the above ☐