

**King Fahd University of Petroleum & Minerals**  
**Electrical Engineering Department**  
**EE-390; Lab final Exam (071); 29<sup>th</sup> May, 2007**

Answer **all THE** question. All questions carry **equal** marks.

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**Name:** \_\_\_\_\_ **I.D.** \_\_\_\_\_

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1. Write a program in TASM that performs the **average** of three byte sized hex-numbers initially stored in memory locations DS:0005H, DS:0009H and DS:0045H. The addition results should be stored in another memory location ES:1010H.

**(Don't include:** Title, .Model, .Stack etc..... Just write the program segment)

Line 1: \_\_\_\_\_

Line 2: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

2. Answer the following questions:

**I. Which instruction is used to Toggle (switch on/off) the contents of AL register: : \_\_\_\_\_**

**II. 'Assemble' command of Debug converts assembly code into \_\_\_\_\_**

**III. What is the maximum size of the code segment (CS) in 8088 Microprocessor?**

- (a) 16 KB    (b) 32 KB    (c) 64 KB    (d) 128 KB

**IV. MOV AL, [SI] + 2000H uses which addressing mode?**

- (a) Immediate    (b) Direct    (c) Based    (d) Indexed

} Select the correct answer/s

**Name:**

***I.D.***

4. **Experimental:** Go to the Flight86 trainer and write an efficient program that will;
- (a) look in to the input from the “Most Significant Switch” of the trainer
  - (b) Once the switch is ON ('1'),
  - (c) make the Least Significant LED to blink constantly for 3 seconds, and then turn the LED off.
- (You are allowed to see the lab manual for this answer)***

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**Correct**

**Partially-Correct**

**LED blinks**

**LED ON**

**No-display**