

## **DATA MANIPULATION**

1. Which of the following is not contained in a CPU?

- |                             |                    |
|-----------------------------|--------------------|
| A. Instruction register     | B. Program counter |
| C. General-purpose register | D. Memory cell     |

2. Which of the following instructions (as described in the language description table) change the content of the memory cell?

- |         |         |         |         |
|---------|---------|---------|---------|
| A. 10AB | B. 20AB | C. 30AB | D. 40AB |
|---------|---------|---------|---------|

3. Which of the following instructions (as described in the language description table) place 00000000 in the register A?

- |         |         |         |         |
|---------|---------|---------|---------|
| A. 1A00 | B. 2A00 | C. 3A00 | D. 200A |
|---------|---------|---------|---------|

4. Which of the following instructions (as described in the language description table) place 00000000 in the register 5?

- |         |         |         |         |
|---------|---------|---------|---------|
| A. 25FF | B. 9555 | C. 15FF | D. 8555 |
|---------|---------|---------|---------|

5. Which of the following instructions (as described in the language description table) will not change the contents of the register 5?

- |         |         |         |         |
|---------|---------|---------|---------|
| A. 1508 | B. 2508 | C. A503 | D. A508 |
|---------|---------|---------|---------|

6. Which of the following instructions (as described in the language description table) is equivalent to requesting that register A be rotated to the left by three bits?

- |         |         |         |         |
|---------|---------|---------|---------|
| A. AA05 | B. AA03 | C. AA08 | D. AA01 |
|---------|---------|---------|---------|

7. Which of the following instructions (as described in the language description table) change the contents of register 7?

- |         |         |         |         |
|---------|---------|---------|---------|
| A. 4077 | B. 4075 | C. 4057 | D. 37BB |
|---------|---------|---------|---------|

8. The following table shows a portion of a machine's memory containing a program written in the language described in the language description table. Answer the questions below assuming that the machine is started with its program counter containing 00.

address	content
00	21
01	0B
02	14
03	04
04	C0
05	00

A. What bit pattern will be in register 4 when the machine halts?

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B. What bit pattern will be in register 1 when the machine halts?

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