



Arab Academy for Science, Technology & Maritime Transport  
COLLEGE OF ENGINEERING & TECHNOLOGY

Department : Computer Engineering Department

Course : Computer Organization

Course Code: CC 312

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Sheet #2

- 1) The following control inputs are active in the bus system. For each case, specify the register transfer that will be executed during the next clock transition.

S <sub>2</sub> S <sub>1</sub> S <sub>0</sub>	LD of register	Memory
0 0 0	IR	Read
0 0 1	PC	-----
1 0 0	-----	Write

- 2) The following register transfers are to be executed in the system. For each specify the binary value of the select lines, the register whose LD, the active control signals (if any), a memory read or write operation.

- MAR ← PC
- IR ← M [MAR]

- 3) Given the instruction set for MARIE decipher the following MARIE machine language instructions (write the assembly language equivalent):

- 001000000000111
- 1001000000001011
- 0011000000001001