

Assignment-2

Marks: 20

1. A microcontroller-based system has a master device: "Master" (index: 5H) and four slave devices: "Slave 1" (index: 85H), "Slave 2" (index: 19H), "Slave 3" (index: A4H), "Slave 4" (index: 6CH). Now, in I2C data transfer protocol, Master receives 3-byte data (from the string "ArDuiNo") from Slave 3. Draw the corresponding sequence diagram. Use the ASCII table provided in your lecture slides.

2. Given the RAM contents:

Address	Content		Address	Content
0			8	
1			9	
2			10	
3			11	00011001
4			12	00010100
5			13	01100100
6			14	00100011
7			15	00011011

- a. Write the assembly code for the expression:
 $(27 + 35 * 2 - 25)$
- b. Fill-up the RAM content table with the instructions machine code. Use the opcodes given in your lecture slides.