Alexandria University
Faculty of Engineering

Computer Organization
Fall 2025
Sheet 8
Assigned: 12/12/2025
Due: 19/12/2025

Sheet 8

1. In 8086, how is memory divided into banks? What signals are used? Mention all the cases for writing a byte and a word in both banks.

2. Draw the 8086 memory interfacing consisting of the following
   - RAM section using 64KB SRAM chips addresses from 00000H to 1FFFFH
   - ROM section using 32KB EPROM chips addresses from F0000H to FFFFFH
     Use the appropriate control signals. Separate them into even and odd banks

3. Encode the following instructions into their machine code:
   a. MOV AX, [2A45]
   b. MOV AX, [DI]
   c. MOV DX, [BX+DI+4]
   d. MOV [BX-4], AX
   e. ADD AX, [BX+1000h]

4. Decode the following instructions:
   a. 8B EC
   b. 8A 15
   c. 88 16 00 10
   d. 8C CB