

Exam-1 Review

Question 1

Address Bus	Data Bus
Carry Flag	Overflow Flag
Physical Address	Logical Address
BIU	EU
Trap Flag	Interrupt Flag
Parity Flag	Auxiliary Flag
Segment Address	Offset address
Segment register	Offset register

Question 2

BX = 1B35, BP = 25A3, SI = 3616,

DI = 15C5, DS = 1230, SS = 21C0

- (a) Find the physical address for the data in the instruction:
MOV AX, [BX+2C]
- (b) Find the physical address for the data in the instruction:
MOV [BP+SI+13A], DL
- (c) The instruction: MOV AX, [],
reference the data in the physical address **2521B**
- (d) If the data segment length is **16 Kbyte**, find the physical address of the last byte in segment.

Question 2

(e) What is the meaning of each the following instructions:

- i- MOV SI, DI
- ii- MOV [SI], DI
- iii- MOV SI, [DI]
- iv- MOV [SI], [DI]

(f) State whether each of the following instructions is legal/illegal, and why:

- i- Add AL, (235)_d
- ii- Mov AX, [DS:BP]
- iii- Sub DL, DI
- iv- Add AL, [BX+BP]

Question 3

		SP	AX	BX
CS:0100	Mov AX, 1122	1532		
CS:0103	Mov BX, 3344			
CS:0106	Push AX			
CS:0107	Add AL, BH			
CS:0109	Sub BX, 1234			
CS:010D	Push AX			
CS:010E	Add AH, 55			
CS:0111	Pop BX			
CS:0112	Pop AX			

Question 3

		IP	SP	AX	BX
B8 22 11	Mov AX, 1122	0530	0212		
8B 1E 15 01	Mov BX, [115]				
50	Push AX				
02 C7	Add AL, BH				
83 EB 03	Sub BX, 03				
50	Push AX				
00 27	Add [BX], AH				
5B	Pop BX				
58	Pop AX				

Question 4

- The pipeline design in Intel processor, gives faster program execution
- The data bus is bi-directional
- In BIU, instruction Queue is used, not Stack.
- The stack segment is used in saving the return address of the procedure calls
- The stack segment is used to save data not code.
- Segment registers are used in **BIU** not in **EU**.
- Flag register is used in **EU** not in **BIU**.

Question 4

- The pipeline design in Intel processor, gives faster program execution
- The data bus is bi-directional
- In BIU, we need instruction Queue, not Stack.
- The stack segment is used in saving the return address of the procedure calls
- Although the Intel **8088** is newer than **8086**, it has lower external data bus.
- Segment registers are used in **BIU** not in **EU**.
- We use the stack segment to save data not code.
- We cannot separate the control unit in BIU from the control unit in EU.
- Flag register is used in **EU** not in **BIU**.