Quiz2

SET A

Question 1

Location	4655Bh	3A314h	53002h	53004h
Data	ABh	CDh	EFh	00H

Given ES = 4000h BX= A214h DS = 3000h, CS = 5234h, SS = 1234h, SI = F008h, IP = 1234h, SP = 5555h DI = AC08h.

- Determine the second top physical address of the stack segment. [Marks 2]
- MOV AX,[BX+100h], Determine the physical address of the instruction and also which value will be stored in AX after the execution. [Marks 3]
- Determine the logical address for the memory location of which the data 00h is in. [Marks 3]

Question 2

MOV AX, 0BCEFH
MOV BX, 5672h
ADD AX, BX
Determine the values of all the status flags, and show all the necessary calculations(such as carries). [Marks 4]

Question 3

Write true or false beside the statements.[Marks 3]

- Physical Address calculation happens in the EU.
- EU does fetching.
- The pre-fetch queue size is 8 bytes.

Answer:

Q1.
1.Second Top offset: SP+1
P.A = SS*10+Second Top Offset
= 1234*10+(5555+1)

2.MOV AX,[BX+100h]
P.A = DS*10+BX+100
= 3000h*10+A214+100
= 30000+A214+100
= 3A314

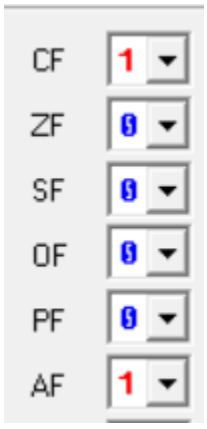
AH, AL
AH = [3A315] = 00h
AL = [3A314] = CDh
AX = 00CDh

3.

53004h
00H

L.A = Seg No:Offset
53004h = CS:IP
53004h = 5234h: CC4h
P.A = Seg *10+offset
Offset = P.A-Seg*10

Q2.



Q3.

- Physical Address calculation happens in the EU. False
- EU does fetching. False
- The pre-fetch queue size is 8 bytes. False

SETB

Question 1

Location	3B328h	352ACh	53002h	53004h
Data	CFh	4Eh	101d	00H

Given ES = 3000h BX= A214h DS = 4000h, CS = 5134h, SS = 1234h, SI = F008h, IP = 1234h, SP = 5555h DI = AC08h.

- Determine the second physical address of the stack segment. [Marks 2]
- MOV AX,[DI+720h] Determine the physical address of the instruction and also which value will be stored in AX after the execution. [Marks 3]
- Determine the logical address for the memory location of which the data EFh is in. [Marks 3]

Question 2

MOV AX, 0FCEFh
MOV CX, 0F672h
ADD AX, CX
Determine the values of all the status flags and show all the necessary calculations(such as carries).. [Marks 4]

Question 3

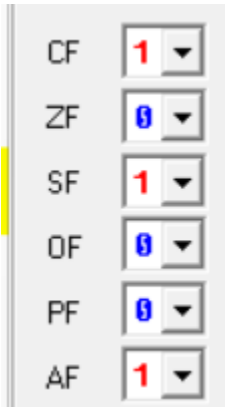
Write true or false beside the statements.[Marks 3]

- The pre-fetch queue size is 6 bits.
- IP is in BIU.
- BIU does fetching.

Answer:

Q1.
Second Offset of stack segment = FFFFh -1
P.A = SS*10+First Offset of Stack Segment
= 1234*10+(FFFF-1)

Q2.



Q3.

- The pre-fetch queue size is 6 bits. Flase
- IP is in BIU. True
- BIU does fetching. True

Quiz1

SETA

Question 1 [CO2] [5 Points]

Suppose Mike went to the market to buy some memories for his computers. After reaching there he needed clarification because he had different sizes of address buses. **a) is 32 bits, b)64 bits**, in his different microprocessors.Now, according to your microprocessor knowledge, determine what sizes of memories he will buy if he wants to use them in his computers.

Question 2 [CO1] [5 Points]

List down two key differences between them.

A. Assembler and Compiler.
B. RAM and ROM.

Question 3 [CO1] [5 Points]

Determine the authenticity of the given statements, Write True/False

A. We can use different sizes of memories in one microprocessor.
B. Microprocessors are used to build a gaming console.
C. The control bus is bidirectional.

D. 8086 has an address bus of 16 bits.
E. Microprocessors are used to build a sound system.

Answer:

Q1.

a) 2^32 Bytes
So, 2^2 * 2^30 Bytes = 4GB
b) 2^64 Bytes

Q2.
Check Slides

Q3.

1. We can use different sizes of memories in one microprocessor. True
2. Microprocessors are used to build a gaming console. True
3. The control bus is bidirectional. False
4. 8086 has an address bus of 16 bits. False
5. Microprocessors are used to build a sound system. False

SETB

Question 1 [CO2] [5 Points]

Suppose Mike went to the market to buy some memories for his computers. After reaching there you needed clarification with the different sizes of memory. **a) is 8GB, b)is 64GB**. Now, according to your microprocessor knowledge, determine what his Address Bus sizes should be if he wants to use those memories in his computer.

Question 2 [CO1] [5 Points]

List down two key differences between them.

A. Address Bus and Data Bus
B. Microprocessor and Microcontroller.

Question 3 [CO1] [5 Points]

Determine the authenticity of the given statements, Write True/False

A. The address bus is bidirectional.
B. 8086 has a data bus of 16 bits.
C. Microcontrollers are used to build a washing machine.
D. The control bus is bidirectional.
E. We can use different sizes of memories in one microcontroller.

Answer:

Q1.

c) 8 GB = 2^3 * 10^30 Bytes
   So, 3+30 = 33 bits address bus needed
d) 64 GB = 2^6 * 10^30 Bytes
   So, 6+30 = 36 bits address bus needed

Q2.
Check Slides

Q3.

6. The address bus is bidirectional. False
7. 8086 has a data bus of 16 bits. True
8. Microcontrollers are used to build a washing machine. True
9. The control bus is bidirectional. Flase
10. We can use different sizes of memories in one microcontroller. False