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For given table solve questions 1 to 5:	Physical Address(PA)	Memory Contents
Q1. Find the LSB of byte-content stored in	00000 н	15 <sub>H</sub>
physical address (PA) of 00003 <sub>H</sub> :	00001 н	6 A <sub>H</sub>
, , , , , , , , , , , , , , , , , , , ,	00002 н	47 <sub>H</sub>
Q2. Find the physical address for the word content	00003 н	EΑ <sub>H</sub>
of "C7EA <sub>H</sub> " :	00004 н	С7н
O		
Q3. Find the most-significant-byte of the Word		
stored in PA of FFFFD <sub>H</sub> :	FFFFB <sub>H</sub>	0 D <sub>H</sub>
	FFFFC <sub>H</sub>	1 A <sub>H</sub>
Q4. Find the 1 <sup>st</sup> misaligned-words stored in the	FFFFD <sub>H</sub>	9 C <sub>H</sub>
memory:	FFFFE <sub>H</sub>	84 <sub>H</sub>
	FFFFF <sub>H</sub>	В6н
Q5. Find the last aligned-double-word stored in the memory contents:		
Q6. Find the maximum memory spaces supported by	y 80x86:	
Q7. What is segment base address:		
Q8. Can "456A8 <sub>H</sub> " be a valid segment base address segment: (yes/no):	for any 64-l	KByte
Q9. Code segment register stores the leftmost 16bits base address of a 64-KByte segment: (yes/no):		•

Q10.	The offset address is stored in CPU register for a particular memory location within the 64-KByte Code-segment area.
Q11.	The offset address of destination-data is stored in CPU register for a particular memory location within the data-segment area
Q12.	If the segment register=2000 <sub>H</sub> and the offset part of the physical address=3456 <sub>H</sub> , then express the physical address:H
Q13.	For the given initial values of the CPU registers of DS=7FA2 $_{\rm H}$ , SI= 2351 $_{\rm H}$ and DI=438E $_{\rm H}$
	(a) The calculated physical address (PA) of the destination memory location that is pointed or accessed by CPU
	(b) The calculate the lowest (starting) physical address of Data segment.
	(c) The calculate the highest (ending) physical address of the Data segment.
	(d) Write the Logical address of the destination memory location memory

- Q14. For the given values of the CPU registers and the main memory contents below, determine the PA's of the
  - (a) next code to be executed : \_\_\_\_\_
  - (b) source data stored in Data-segment : \_\_\_\_\_
  - (c) Stack-segment memory location to be accessed: \_\_\_\_\_\_,
  - (d) Extra-segment memory location where destination data can be stored:

\_\_\_\_\_

	CPU
IP	= FFFC <sub>H</sub>
CS	S = 0000 <sub>H</sub>
DS	S = 4000 <sub>H</sub>
SS	S = 8000 <sub>H</sub>
ES	S = B000 <sub>H</sub>
Accum	nulator Reg., (AX
Base	e Register, (BX)
Count	er Register, (CX)
Data	Register, (DX)
SF	P = 0002 <sub>H</sub>
Bas	e pointer, (BP)
SI	= FFFE <sub>H</sub>
D	I = 0001 <sub>H</sub>
Statu	s Register, (SR)

Main	Main Memory		
0000 <mark>0</mark> H	1 Byte		
00001 <sub>H</sub>	5 A <sub>H</sub>		
00002 <sub>H</sub>	7 E <sub>H</sub>		
	Code Seg.		
0FFFC <sub>H</sub>	25 <sub>H</sub>		
0FFFE <sub>H</sub>	С 8 н		
0FFF <sub>H</sub>	8 3 <sub>H</sub>		
4000 <mark>0</mark> н	7 F <sub>H</sub>		
40001 <sub>H</sub>	6 3 <sub>H</sub>		
40003 <sub>H</sub>	2 A <sub>H</sub>		
	Data Seg.		
4FFFE <sub>H</sub>	А 6 н		
4FFFF <sub>H</sub>	В 2н		

BFFFE <sub>H</sub> BFFFF <sub>H</sub>	А 6 <sub>н</sub>
55555	Extra Seg.
B0003 <sub>H</sub>	ВАн
B0001 <sub>H</sub>	6 B <sub>H</sub>
В000 <mark>0</mark> н	5 1 <sub>H</sub>
8FFFF <sub>H</sub>	4 9 <sub>H</sub>
8FFFE <sub>H</sub>	15 <sub>H</sub>
8FFFC <sub>H</sub>	2 1 <sub>H</sub>
	Stack Seg
80002 <sub>H</sub>	F B <sub>H</sub>
80001 <sub>H</sub>	ААн
8000 <mark>0</mark> H	1 Byte

Q15. If Memory addresses B0000<sub>H</sub> to BFFFF<sub>H</sub> is selected to be the new Codesegment, then to point into a location with PA=B1234<sub>H</sub>, what values should be loaded into the **related** CPU registers (given in the left side of the figure below).

and

**Main Memory** CPU (IP) = 00000<sub>H</sub> 1 Byte 80000<sub>H</sub> 1 Byte 00001<sub>H</sub> 5 A<sub>H</sub> 80001<sub>H</sub> AAH 00002<sub>H</sub> 7 E<sub>H</sub> F B<sub>H</sub> 80002<sub>H</sub> (DS) =64 K Byte 64 K Byte (SS) =Segment Segment (ES) =0FFFC<sub>H</sub> 25<sub>H</sub> 8FFFC<sub>H</sub> 21<sub>H</sub> OFFFE<sub>H</sub> C 8<sub>H</sub> (AX) = 8FFFE<sub>H</sub> 15<sub>H</sub> OFFFF<sub>H</sub> 83<sub>H</sub> (BX) =8FFFF<sub>H</sub> 49<sub>H</sub> (CX) =40000<sub>H</sub> 7 F<sub>H</sub> B0000 H 5 1<sub>H</sub> (DX) =40001<sub>H</sub> 63<sub>H</sub> B0001<sub>H</sub> 6 B<sub>H</sub> (SP) =40003<sub>H</sub> 2 A<sub>H</sub> B0003<sub>H</sub> BAH (BP) =64 K Byte 64 K Byte Segment (SI) = Segment

A 6 H

B 2<sub>H</sub>

BFFFE<sub>H</sub>

BFFFF<sub>H</sub>

A 6 H

7 <u>7</u> <sub>H</sub>

4FFFE<sub>H</sub>

4FFFF<sub>H</sub>

(DI) =

(SR) =