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QNO1) Give Answer to

Each of The Following:

(a) Discuss The virtual machine concept using Example.

Ans) A virtual machine or VM is an emulated computer system created using software.

Example KVM, Hyper-V, Windows virtual PC.

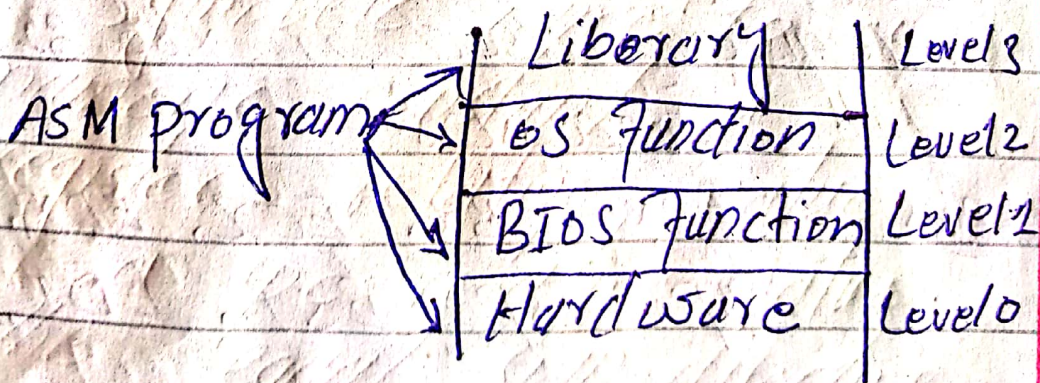
(b) Explain different register used in x86 32 bit processors.

Ans EAX, EBX, ECX, EDX,
EBP, ESP, ESI, EDI,

(c) Discuss different features of Intel P965 Express chipset.

Ans) One of the main features of the P965 chipset, it complies with Intel's Viiv technology requirement. 1066/800/533 MHz which means this chipset can support full core 2 sang.

(d) Elaborate different I/O levels involved in displaying a string of character.



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(e) explain different instruction mnemonics having zero, one, and two operands.

QNO2: Differentiate each of the following.

(a) Real address mode and protected mode.

(Ans) The primary difference between real mode and protected mode is the latter's new addressing mechanism and protection level. Although memory segment are still retained, each segment may range from a single byte to 4GB.

(b) Instruction and directive.

Ans) Instruction is the set of instructions, teaching or furnishing with information or knowledge. Directive is an instruction or guideline that indicates how to perform an action or reach a goal.

(c) Equal sign directive and EQU directive.

Ans) EQU directive gives a symbolic name to a numeric constant, a register - relative value or a PC relative value. The equal sign directive associates a symbol name with an integer expression. The syntax name = Expression.

(d) Data Label and code
Label.

(Ans) Data Label is the Label that we use to define data as we define memory locations num_1, num_2, \dots etc in our program. Code Label is the Label that we have one code as we see in case of Conditional Jump, and normally used for loop control statement.

(e) status flag and control flag.
Status flags allow the single arithmetic operation to produce result for three different data type. unsigned, signed and Bcd integers. The control flags indicate how a successful attempt or a

Failed attempt through
 Each module is handled.
 Even though these flags
 apply to all module types.

QNO 3: solve each of
 The following:

(a)

if $W = 11101100$

$X = 00010011$

$Y = 00111100$

$Z = W \vee X \wedge \neg Y = ?$

W	X	Y	$W \vee X$	$\neg Y$	$W \vee X \wedge \neg Y$
1	0	0	1	1	1
1	0	0	1	1	1
1	0	1	1	0	0
0	1	1	1	0	0
1	0	1	1	0	0
1	0	1	1	0	0
0	1	0	1	1	1
0	1	0	1	1	1

(b) create the truth table for the boolean function described by $\neg A \wedge \neg B$

Ans)

A	B	$\neg A$	$\neg B$	$\neg A \wedge \neg B$
1	1	0	0	0
1	0	0	1	0
0	1	1	0	0
0	0	1	1	1

QNO4: Attempt each of the following:

a) Show that the order of individual bytes in memory for the following double word —

DWORD dword DWORD 87654321h
 dword 87654321h =

0003
 0002
 0001
 0000

12
34
56
78

or

78	0000
56	0001
34	0002
12	0003

(d) ANS (Question No 4)

- (1) model flat, stdcall
- (2) stack 4096
- (3) Exit processor RRTO,
- (4) dw Exit code: DWORD
- (5) main PROC
- (6) mov eax, 5 ; move 5 to eax
- (7) add eax, 6 ; add 6 to eax
- (8) INVOKE Exitprocessor, 0
- (9) main ENDP
- (10) END main

Explanation:

Line (1) select programme memory and identifying calling convention.

Line 3 prototype for the exit processor. A prototype consist of the function name, the proto keyword, a list input parameter. we take two integers 5 and

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6 and then move 5
to eax register and
add 6 to eax register.
line no 10 tell us the
program is end because
main function is end.

(C) Question NO 4)

Write a program

That calculate the
following expression.

$$D = (C + B) - A$$

Ans

~~ANS~~

model flat, stdcall
stack 4096

Exit processor PROTO

~~Exit~~ Main PROC

mov(C, eax)

add(B, eax)

sub(A, eax)

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mov(edx, D)
INVOKE ExitProcessor
main BNDP
END main
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