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THE EXAM PERFORMANCE PROGRAM

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Started on	Monday, 5 June 2017, 1:12 PM
State	Finished
Completed on	Monday, 5 June 2017, 2:22 PM
Time taken	1 hour 9 mins

Question 1

Complete

Marked out of 1.20

Consider the following assembly instruction sequence

```
        CMP DL, 0
        JB    x_label
        CMP DL, 9
        JA    a_label
        ADD DL, 30h
        JMP  x_label
a_label:
        CMP DL, 0Fh
        JA    x_label
        ADD DL, 37h
x_label:
        MOV AL, DL
```

watch point:

...

Choose correct value of AL register at watch point for different value of DL?

DL=10 38h ▼

DL=8 41h ▼

DL=55h 55h ▼

DL=0FFh 0FFh ▼

Question 2

Complete

Marked out of 1.00

The following sequence of instructions are executed. What is the correct value of CF and OF at watch point?

```
        MOV AX,FFF6h
        MOV CX,1000h
        IMUL  CX
```

watch point:

OF= set ▼

CF= undefined ▼

Question 3

Complete

Marked out of 0.50

Which could be correct ones for the destination operand in a data movement instruction?

Select one or more:

- [x] register
- [ ] immediate data
- [x] memory location
- [ ] all choices are correct

Question 4

Complete

Marked out of 1.20

Write mask byte (in hex) to clear bit 2nd, 3rd, 5th of a byte value with AND instruction (LSB is 1st bit).

Answer: 10010111

Question 5

Complete

Marked out of 0.50

if the location to which the control is to be transferred lies in a segment other than the current one, then the jump instruction is call

Select one:

- ( ) intrasegment indirect mode
- ( ) intersegment mode
- ( ) intrasegment mode
- (•) intrasegment direct mode

Question 6

Complete

Marked out of 1.20

Convert the 32-bit floating point number 44363800 (in hex) to decimal.

Answer: 1144403968

Question 7

Complete

Marked out of 1.00

The following sequence of instructions are executed. What is the correct value of flag bits at watch point?

```
MOV AX,FFFF
MOV CX,5
MUL  CX
```

watch point:

Carry flag (CF) = set

Overflow flag (OF) = not defined

Question 8

Complete

Marked out of 0.50

In multiplication instruction, when the source operand is 16 bit, how can the result be taken?

Select one:

- from AX:DX pair
- from AX
- from EAX
- from DX:AX pair

Question 9

Complete

Marked out of 1.00

Given a row of memory image in debug

```
0AE8:0120 13 96 D0 E0 D0 E0 A2 1E - 99 80 3E 20 99 00 75 24
```

Initially, AX=BX=CX=DX=0, SI=128

What are value of AX,DX after execution of the following instructions?

```
MOV EDX, [SI]
MOV EAX, [SI+4]
```

DX = 203E

AX = 8099

Question 10

Complete

Marked out of 1.00

Which statements are correct for HDDs?

Select one or more:

- [x] Head, Track, Sector are key parameters for access data on hard disk
- [x] Bits are stored on tracks
- [ ] Head, Track, Cylinder are key parameters for access data on hard disk
- [ ] Bits are store randomly on disk surfaces

Question 11

Complete

Marked out of 0.50

Which are correct action for SCASW string operation if DF is set (=1)

Select one or more:

- [ ] compare value in AL register with memory location pointed by DS:[SI]
- [ ] decrease DI by 2
- [x] compare value in AL register with memory location pointed by ES:[DI]
- [x] increase DI by 2

Question 12

Complete

Marked out of 1.00

Given a row of memory image in debug

0AE8:0120 13 96 D0 E0 D0 E0 A2 1E - 99 80 3E 20 99 00 75 24

SI = 120, DI = 128

Select correct sequence of instructions to subtract words at [DI] from [SI] then store the result at memory location 12A

Step 1: MOV AX, [SI] ▼

Step 2: SUB AX, [DI] ▼

Step 3: SUB AX, [SI] ▼

Step 4: MOV BX, 012A ▼

Question 13

Complete

Marked out of 0.50

The instruction that supports addition when carry exists is

Select one:

- DAS
- SBB
- ADC
- ADD

Question 14

Complete

Marked out of 1.00

In computer, how does the processor serve multiple interrupt request from devices?

Select one:

- Each device are assigned an interrupt priority, the device with lower priority will be served.
- Device with higher priority will use interrupt enable flag
- The processor can not process multiple interrupt requests
- Each device are assigned an interrupt priority, the device with higher priority will be served.

Question 15

Complete

Marked out of 1.00

The following sequence of instructions are executed. What is the correct value of flag bits at watch point?

```
MOV AL, 80
MOV BL, 2
MUL  BL
```

watch point:

Overflow flag (OF) = reset ▾

Carry flag (CF) = set ▾

Question 16

Complete

Marked out of 0.50

To test one bit in a byte value without destructing the byte, use _____ instruction.

Select one:

- AND
- OR
- NOT
- TEST

Question 17

Complete

Marked out of 1.00

Which are correct about the data registers of IA-32 processors:

Select one or more:

- [ ] Lower halves of the 32-registers an be used as 4 16-bit data registers: AX,BX,CX,DX
- [x] complete 32-bit registers: EAX, EBX, ECX, EDX
- [ ] Lower halves of the 16-registers an be used as 8-bit data registers: AH,AL,BH,BL,CH,CL,DH,DL
- [x] Higher halves of the 32-bit registers can be used as 16-bit registers: EAH,EAL,EBH,EBL,ECH,ECL,EDH,EDL

Question 18

Complete

Marked out of 1.20

Convert 0.1015625 to IEEE 32-bit floating point format (1 sign+ 8 exponent + 23 mantissa)

Answer: Thay thuong tinh cho em 7d qua mon, em cam on!

Question 19

Complete

Marked out of 1.00

The following sequence of instructions are executed. What is the correct value of flag bits at watch point?

```
MOV DL,FF
MOV AL,F6
IMUL  DL
```

watch point:

OF = set ▾

CF = set ▾

Question 20

Complete

Marked out of 1.00

Choose correct features for SRAM and DRAM

SRAM: Faster access time, cost more per bit, smaller size

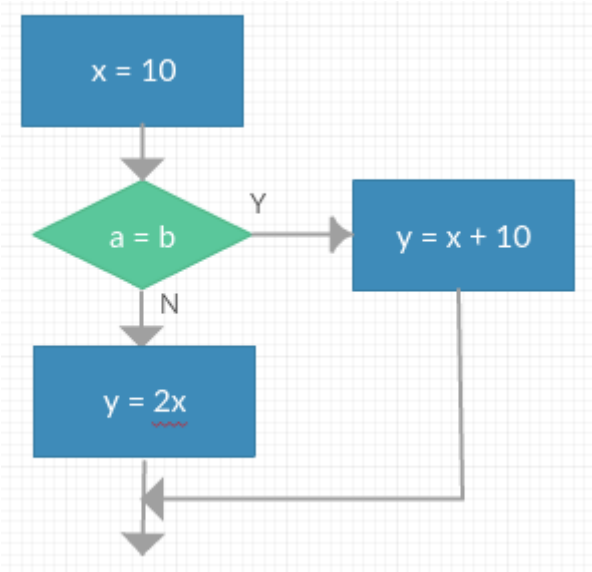
DRAM: Slower access time, cheaper cost per bit, can manufacture with larger size

Question 21

Complete

Marked out of 1.20

Given a flowchart of an algorithm:



Select the correct instruction sequence:

Select one or more:

- [ ]
```
mov dl,10
cmp al,bl
jz  n_label
mov cl,1
shl dl,cl
jmp e_label
n_label:
add dl,10
e_label:
mov dh,dl
```

- [ ]
```
mov dl,10
cmp al,bl
jnz n_label
add dl,10
jmp e_label
n_label:
mov cl,1
shr dl,cl
e_label:
mov dh,dl
```

- [x]
```
mov dl,10
cmp al,bl
jnz n_label
add dl,10
jmp e_label
n_label:
mov cl,1
shl dl,cl
e_label:
mov dh,dl
```

```
    mov dl,10
    cmp al,bl
    jnz n_label
    add dl,10
    mov dh,dl
    jmp e_label
n_label:
    mov cl,1
    shl dl,cl
e_label:
   mov dh,dl
```

Question 22

Complete

Marked out of 1.00

The following sequence of instructions are executed. What is the correct value of flag bits at watch point?

```
MOV AL, 0F
ADD AL, F1
```

watch point:

Zero flag (OF) = set

Carry flag (CF) = neither set nor reset

Question 23

Complete

Marked out of 0.50

Which are correct action for STOSB string operation if DF is reset (=0)

Select one or more:

- [ ] decrease DI by 1
- [x] Store 8-bit value from AL into memory location pointed by DS:[SI]
- [x] increase DI by 1
- [ ] Store 8-bit value from AL into memory location pointed by ES:[DI]

Question 24

Complete

Marked out of 1.00

What are components of Von Neumann, namely IAS computer?

Select one or more:

- [x] I/O Equipments
- [ ] Monitor
- [x] CPU
- [x] Memory
- [ ] Bus
- [ ] Punched card reader

Question 25

Not answered

Marked out of 1.00

Compute the physical address of the next instruction will be execute if instruction pointer is 091D and code segment located at 1FAF

Answer:

Question 26

Complete

Marked out of 1.00

Which set of registers are valid for addressing a stack memory location?

Select one or more:

- [ ] SS:BP
- [x] SS:BX
- [x] DS:SI
- [ ] SS:SP

Question 27

Complete

Marked out of 0.50

The instruction that is used for finding out the codes in case of code conversion problems is

Select one:

- ( ) XOR
- ( ) JCXZ
- ( ) XLAT
- (•) XCHG

Question 28

Complete

Marked out of 0.50

To clear one or more bits in a byte value, use _____ instruction.

Select one:

- OR
- NOT
- AND
- XOR

Question 29

Complete

Marked out of 1.00

The following sequence of instructions are executed. What is the correct value of flag bits at watch point?

```
MOV AL,-5
SUB  AL,124
```

watch point:

Zero flag (OF) = not defined

Overflow flag (OF) = reset

Sign flag (SF) = set

Carry flag (CF) = set

Question 30

Complete

Marked out of 1.00

the memory stack area of a program shown in figure

Address	1D50	1D51	1D52	1D53
Value	AF	90	71	DA

The value of SP register is 1D50. What is the value of SP follows the execution of **PUSH SI**

Answer: 90

Question 31

Complete

Marked out of 1.00

Enter debug command to fill 256 bytes in data segment starting from 100 with value 0D

Answer: ADD 0D, 256[100]

Question 32

Complete

Marked out of 0.50

Which are correct action for LODSB string operation if DF is reset (=0)

Select one or more:

- [ ] increase SI by 1
- [x] Load 8-bit value at memory location pointed by ES:[DI] into AL
- [ ] Load 8-bit value at memory location pointed by DS:[SI] into AL
- [x] decrease DI by 1

Question 33

Complete

Marked out of 1.20

Given a code snippet:

```
int n = 10;
do {
    n--;
} while (n > 0);
```

Which ones are the equivalent logic sequence of instructions in Assembly

Select one or more:

- [ ]
```
    mov cx, 10
a_label:
     dec cx
    cmp cx, 0
    jz e_label
    jmp a_label
e_label:
```
- [x]
```
 mov cx, 10
a_label:
  .....
  dec cx
  loop  a_label
```
- [ ]
```
 mov cx, 10
a_label:
  .....
  dec cx
  cmp cx,0
  jz  a_label
```
- [ ]
```
 mov cx, 10
a_label:
  .....
  loop  a_label
```

Question 34

Complete

Marked out of 1.00

For better speed, in CPU design, engineers make use of the following techniques:

Select one or more:

- [ ] Speculative execution
- [ ] Branch prediction
- [ ] Faster CPU internal bus
- [x] Pipelining

Question 35

Complete

Marked out of 0.50

In multiplication instruction, when the source operand is 8 bit, _____ will be multiplied with source.

Select one:

- (•) Whatever general purpose register
- ( ) BX
- ( ) AL
- ( ) AX

Question 36

Complete

Marked out of 1.00

Which are valid based index addressing?

Select one or more:

- [ ] [BX+SI]
- [x] [BX+DI]
- [x] [DX+SI]
- [ ] [SP+DI]

Question 37

Complete

Marked out of 1.00

Memory dump at 1D20:0200 as below:

1D20:0200 00 20 10 5D 55 47 00 90 - 00 10 20 30 40 50 60 70

Given value of registers: DS = 1D20, SI = 200, BX = 202, AX = 0103

Identify correct value of AX register after XLAT instruction is executed.

AH = 5Dh ▼

AL = 10h ▼

Question 38

Complete

Marked out of 1.20

Given a code snippet (ax, bx are none negative integers):

```
if (ax >= bx)
   ax -=bx;
else
   bx -=ax;
```

What is the equivalent logic sequence of instructions in Assembly

Select one:

```
 cmp ax,bx
  jbe  a_label
  sub ax,bx
  jmp x_label
a_label:
  sub bx,ax
x_label:
```

```
cmp ax,bx
  jb  a_label
  sub ax,bx
  jmp x_label
a_label:
  sub bx,ax
x_label:
```

```
cmp ax,bx
  ja  a_label
  sub ax,bx
  jmp x_label
a_label:
  sub bx,ax
x_label:
```

```
cmp ax,bx
  jnbe  a_label
  sub ax,bx
  jmp x_label
a_label:
  sub bx,ax
x_label:
```

Question 39

Complete

Marked out of 0.50

The instruction, MOV AX, 0005h belongs to which addressing mode?

Select one:

- Immediate
- direct
- register
- index

Question 40

Complete

Marked out of 1.00

Part of computer memory is shown in figure

Address	1D48	1D49	1D4A	1D4B	1D4C	1D4D	1D4E	1D4F
Value	03	7F	F5	2D	5A	12	7B	C0

What is the value of AX register after instruction **MOV AX, [1D4B]** executed

Answer: 2D

Question 41

Complete

Marked out of 0.50

Which of the following instructions are not valid?

Select one or more:

- MOV AX, [BP+2]
- MOV AX, SI
- MOV DS, B800h
- MOV SP, SS:[SI+2]

Question 42

Complete

Marked out of 1.00

The following sequence of instructions are executed. What is the correct value of AX, CX, DX at watch point?

```
MOV AX,0020
MOV CX,0010
MUL  CL
```

watch point:

AX = 0200 ▼

DX 020F ▼

CX = 0010 ▼

Question 43

Complete

Marked out of 1.00

Basic functions that a computer can perform including:

Select one or more:

- [x] Data movement
- [ ] Direct memory access
- [x] Control
- [x] Data storage
- [ ] Interrupt
- [x] Data processing

Question 44

Complete

Marked out of 1.00

Select correct match for register values at watch points:

```
                MOV AX, 4FCA
                ADD AX, DDA9
watch point #1:
                ADD AH, F3
watch point #2:
                .....
```

watch point #1: AH = 20 ▼

watch point #2: AL = 73 ▼

Question 45

Complete

Marked out of 1.20

Hereafter is instruction sequence to compute the sum of 8 bytes starting at memory address 200. Two lines of code are possibly missing. Choose correct one to fill in?

```
01:             _____________; possibly missing code
02:             MOV AL, 0
03:             MOV CX, 8
04: Loop_label:
05:             _____________; possibly missing code
06:             ADD AX, [SI];
07:             INC SI
08:             LOOP Loop_label
```

01: MOV SI, 200 ▼

05: CWD ▼

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