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THE EXAM PERFORMANCE PROGRAM

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State	Finished
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Question 1

Complete

Marked out of 1.20

Convert the 32-bit floating point number 44363C00 (in hex) to decimal.

Answer: 1144404992

Question 2

Complete

Marked out of 0.50

The instruction that subtracts 1 from the contents of the specified register/memory location is

Select one:

- SUB
- DEC
- SBB
- INC

Question 3

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, ES = 1D20,

DI = 20A, SI = 208,

BX = 202, AX = 0103, CX = 0003

and flag bit DF = 1

What is the correct value of AX, SI, DI registers after the instruction REP LODSW is executed?

DI = 0202h

AX = 5040h

SI = 5547h

Question 4

Complete

Marked out of 0.50

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

Select one or more:

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

Question 5

Complete

Marked out of 1.50

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

Select one or more:

- [x] Base Pointer (BP): The 16 bit pointer refers to stack memory
- [ ] Stack Pointer (SP): the 16 bit pointer to the top of stack
- [x] Instruction Pointer (IP): the 16 bit register points to the next instruction to be execute
- [ ] Base Pointer (EBP): The 32 bit pointer refers to stack memory
- [x] Stack Pointer (ESP): the 32 bit pointer to the top of stack
- [ ] Instruction Pointer (EIP): the 32 bit register points to the next instruction to be execute

Question 6

Complete

Marked out of 1.00

What are components of Von Neumann, namely IAS computer?

Select one or more:

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

Question 7

Complete

Marked out of 1.00

Which statements are correct for HDDs?

Select one or more:

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

Question 8

Complete

Marked out of 0.50

The instruction that loads effective address is

Select one:

- ( ) LAHF
- ( ) LDS
- (•) LEA
- ( ) LES

Question 9

Not answered

Marked out of 1.00

Enter debug command to fill 250 bytes in the memory segment FED5 in computer memory starting from 100 with value AD

Answer:

Question 10

Complete

Marked out of 1.00

The following sequence of instructions are executed. What is the correct value of EAX, EBX, EDX at watch point?

```
MOV EAX,00002000
MOV EBX,00100000
MUL  EBX
```

watch point:

EAX = 00000002

EDX = 00000000

EBX = 00021000

Question 11

Not answered

Marked out of 1.20

Convert 39887.5625 to IEEE 32-bit floating point format (1 sign+ 8 exponent + 23 mantissa) in hex

Answer:

Question 12

Complete

Marked out of 0.50

The instruction, MOV AX, 1234h is an example of

Select one:

- Immediate addressing mode
- based index addressing mode
- direct addressing mode
- register addressing mode

Question 13

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, 78
MOV BL, 2
MUL  BL
```

watch point:

Carry flag (CF) = reset ▾

Overflow flag (OF) = reset ▾

Question 14

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
ADD  AL,132
ADD  AL,1
```

watch point:

Zero flag (OF) = set ▾

Overflow flag (OF) = reset ▾

Sign flag (SF) reset ▾

Carry flag (CF) = reset ▾

Question 15

Complete

Marked out of 1.00

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

Select one:

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

Question 16

Complete

Marked out of 0.50

the instruction, JMP C008:2000h is an example of

Select one or more:

- [ ] intersegment jump
- [ ] far jump
- [ ] near jump
- [x] intrasegment mode

Question 17

Complete

Marked out of 0.50

In multiplication instruction, the result is taken from AX means the source operand is _____ bit

Select one:

- (•) 8
- ( ) 16
- ( ) None of the choices are correct
- ( ) 4

Question 18

Complete

Marked out of 1.00

Memory dump at 1D20:0200 shown 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, ES = 1D20, DI = 20A

The following sequence of instructions is being executed:

```
MOV SI,208h
MOV AX,0040h
MOV CX,000Ah
CLD
REPNZ SCASB
```

watch point:

. . . . .

What is the correct value of AX, SI, DI registers at watch point?

SI = 020Ch ▼

DI = 4030h ▼

AX = 020Bh ▼

Question 19

Complete

Marked out of 1.00

What is the correct value of SI, AL (in hex) at watch point:

```
01:          MOV SI, 300h
02:          MOV AL, 10h
03:          MOV CX, 7
04: Loop_label:
05:          MOV [SI], AL
06:          ADD AL,10h
07:          INC  SI
08:          LOOP Loop_label
```

watch point:

SI [308h ▼]

AL = [70h ▼]

Question 20

Not answered

Marked out of 1.00

Physical address of a memory location is 5FE2E. This memory address located by DI register which now has value of 993E. Compute the memory address of data segment register

Answer: [ ]

Question 21

Complete

Marked out of 1.00

Basic functions that a computer can perform including:

Select one or more:

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

Question 22

Complete

Marked out of 1.20

Given a code snippet:

```
int ax, bx;
...
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
 jl  a_label
 sub ax,bx
 jmp x_label
a_label:
 sub bx,ax
x_label:
```

-
```
 cmp ax,bx
 jge  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:
```

Question 23

Complete

Marked out of 1.20

Given an assembly code copying the memory buffer Buff1 to Buff2:

```
        PUSH DS
        POP   ES
        LEA   SI, Buff1
        LEA   DI, Buff2
        MOV  CX,20
        ;--- Start of block
cp_loop:
        MOV  AL, Byte Ptr [SI]
        MOV  Byte Ptr ES:[DI], AL
        INC   SI
        INC   DI
        LOOP cp_loop
        ; ---End of block
```

Choose equivalent string operations in place of block code from ---Start of block to ---End of block

Select one or more:

- CLD
  ```
  cp_loop:
      MOVSB
      LOOP cp_loop
  ```
- CLD
  ```
  cp_loop:
      REP MOVSB
      LOOP cp_loop
  ```
- CLD
  ```
      REP MOVSB
  ```
- STD
  ```
  cp_loop:
      MOVSB
      LOOP cp_loop
  ```

Question 24

Complete

Marked out of 0.50

After each execution of POP instruction, the stack pointer is

Select one:

- increment by 1
- increment by 2
- decrement by 2
- decrement by 1

Question 25

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]

EDX = 99007524

EAX = 203E8099

Question 26

Not answered

Marked out of 1.00

Part of memory 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 AH follow the execution of this code:

MOV BX, 1D4D

MOV AX, [BX]

Answer:

Question 27

Complete

Marked out of 1.00

Which are valid based indexed addressing?

Select one or more:

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

Question 28

Complete

Marked out of 1.20

Consider the following assembly instruction sequence

```
        XOR BX, BX
        CMP DL, 5
        JLE  a_label
        CMP DL,17h
        JGE  a_label
        MOV BX, 10h
a_label:
        INC BX
watch point:
...
```

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

DL=0FFh 11h ▼

DL=10 01h ▼

DL=17h 01h ▼

DL=0Ah 28h ▼

Question 29

Not answered

Marked out of 1.00

Part of computer memory are 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, 1D49** executed

Answer:

Question 30

Complete

Marked out of 0.50

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

Select one:

- NOT
- XOR
- AND
- OR

Question 31

Complete

Marked out of 1.00

Choose correct features for SRAM and DRAM

DRAM: Slow access time, cheaper cost per bit, can only manufacture at larger size

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

Question 32

Complete

Marked out of 1.00

Major structural components of the CPU include:

Select one or more:

- [x] Arithmetic and Logic Unit
- [ ] Instruction Register
- [ ] Interconnections
- [x] Control Unit
- [x] Instruction Pointer (PC)
- [ ] Registers

Question 33

Complete

Marked out of 1.00

Select correct match for AL and carry flag at watch point #1:

```
MOV BL, 8C
MOV AL, 7E
ADD AL, BL
```

watch point #1:

```
.....
```

AL: set

Carry flag: 0A

Question 34

Complete

Marked out of 1.20

Given a code snippet:

```
if (a>=0 && a <=9)
   x = a + 30h;
else if (a >=10 && a <=15)
   x = a + 55;
```

The logic of the above code snippet in assembly is (with missing lines):

```
01:      CMP DL, 0
02:      ---------- ; possibly missing code
03:      CMP DL, 9
04:      ---------- ; possibly missing code
05:      ADD DL, 30h
06:      ---------- ; possibly missing code
a_label:
08:      CMP DL, 0Fh
09:      ---------- ; possibly missing code
10:      ADD DL, 55
x_label:
12:      MOV AL, DL
...
```

Choose correct missing instructions in the above sequence of instructions

02: JMP a_label ▼

06: JMP x_label ▼

04: empty ▼

09: empty ▼

Question 35

Complete

Marked out of 1.50

Given a row of memory image in debug

072C:FFF0 00 00 00 01 00 00 2C 07 - 07 01 2C 07 17 72 00 00

SS=072C, SP=FFF8, DS = 072C

Assume the stack now stores two (2) 16-bit parameters and one (1) 16-bit return address in following order: stack top (return address) >> parameter #1 >> parameter #2.

The following sequence of instructions are executed. What is the correct values at watch points?

MOV BP, SP

watch point #1 (BP):

MOV AX, [BP+2]

watch point #2 (AX):

ADD AX, [BP+4]

watch point #3 (AX):

MOV DI, 120

MOV [DI], AX

watch point #1: AX = 2C07 ▼

watch point #2: BP = FFF8 ▼

watch point #3: SUB AX, [SI] ▼

Question 36

Complete

Marked out of 1.20

Given a code snippet to look for a value (from AL) in memory buffer Buff

```
Buff      DB   11,22,33,44,55
          .................
01:       LEA  DI, Buff
02:       ------------ ; possibly missing code
03:       MOV AL,33
04:       MOV CX,5
a_label:
05:       ------------ ; possibly missing code
06:       CMP Byte Ptr [DI],AL
07:       ------------ ; possibly missing code
08:       LOOPNZ a_label
...
```

Choose correct missing instructions in the above sequence of instructions

05: INC DI ▼

07: DEC DI ▼

02: Empty ▼

Question 37

Complete

Marked out of 0.50

In multiplication instruction, when the value of source operand is 12 (decimal), the other operand is loaded in AX. Which registers can be used to load source operand?

Select one or more:

- [x] DX
- [ ] BX
- [ ] CL
- [ ] AX
- [ ] DL

Question 38

Complete

Marked out of 1.00

The following sequence of instructions are executed. What is the correct value of AX and DX (in hex) at watch point?

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

watch point:

AX= FFF6

DX= 6000

Question 39

Complete

Marked out of 0.50

the instruction, CMP to compare source and destination operands by _____

Select one:

- comparing
- subtracting
- dividing
- adding

Question 40

Complete

Marked out of 0.50

To test one bit in a byte value which can be destructive. use _____ instruction.

Select one:

- TEST
- AND
- OR
- NOT

Question 41

Complete

Marked out of 0.50

Which are correct input for XLAT instruction

Select one or more:

- [x] DS:[BX] pointed to look-up table
- [ ] DS:[SI] pointed to look-up table
- [ ] look-up index must be loaded into DL
- [ ] look-up index must be loaded into AL

Question 42

Complete

Marked out of 0.50

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

Select one or more:

- [x] increase SI by 2
- [ ] Load 16-bit value at memory location pointed by DS:[SI] into AX
- [x] Load 16-bit value at memory location pointed by ES:[DI] into AX
- [ ] decrease DI by 2

Question 43

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,19
MOV AL,F6
IMUL  DL
```

watch point:

OF = reset ▼

CF = reset ▼

Question 44

Complete

Marked out of 1.00

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

```
MOV DL,FF
MOV AL,42
IMUL  DL
```

watch point:

AX = FF00 ▼

DX = FFBE ▼

Question 45

Not answered

Marked out of 1.20

Write mask byte (in hex) to clear the lower 4 bit of a byte value with AND instruction.

Answer:

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