1. AL=9, AH=7
2. Given 8­bit floating­point binary format: 1 (sign) + 3 (exponent) + 4 (mantissa).Convert the 8­bit floating point number 57 (in hex) to decima

**DA : 5,75**

1. A system programmer needs to divide ­6247 by 300 (decimal)

**DA : MOV AX,E799; CDW; CDW; IDIV BX; IDIV BX; FF09**

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

**DA : F0**

1. To isolate one or more bits in a byte value, use **\_\_\_\_\_\_\_\_AND**\_\_ instruction.
2. EAX now stored a 32­bit IP address of a host. The network ID (netID) is 20 bit and can be  
   extracted from IP byte anding with a 32­bit mask. Write correct instruction to extract netID from  
   EAX register

**DA : and EAX,FFFFF000**

1. The following sequence of instructions are executed. What is the correct values at watch point?  
   MOV AX, 67FE  
   MOV BX, AX   
   MOV CL, BH **DA : FE67, 67FE**  
   MOV CH, BL
2. The following sequence of instructions are executed. What is the correct value of flag bits at watch  
   point?  
   MOV EAX, 12AE **DA : set, reset, set**  
   SUB EAX, 12AF
3. Physical address of the stack pointer is 2DA82, stack segment located at 1DAE. Computer the value of SP register? **DA: FFA2**
4. Match the following hexadecimal numbers to octal

**DA:347, 156, 251**

1. Enter debug command to fill 256 bytes in data segment starting from 100 with value 0D  
    **DA : f 100 1FF 0D**
2. Given 8­bit floating­point binary format: 1 (sign) + 3 (exponent) + 4 (mantissa).Convert the 8­bit floating point number E7 (in hex) to decimal

**DA : -11,5**

1. Match the correct answer for binary operations on the left  
   **DA:**

**1111111 ­ 111 1111000  
1100111 ­ 111 1100000**

**1010101 + 10101 1101010  
1010110 ­ 101 1010001  
1110011 + 11001 10001100  
1111111 + 11111 10011110**

1. Convert the following binary numbers to hexadecimal  
   **DA:**

**10101001 A9  
01101110 6E  
11100101 E5  
11100111 E7**

1. The following sequence of instructions are executed. What is the correct value of CF and OF at  
   watch point?  
   MOV AX,140h  
   MOV CX,8h   
   MUL CX  
   watch point:  
    **DA: CF= reset  
    OF= reset**
2. To test one bit in a byte value without destructing the byte, use **\_\_\_TEST\_\_\_** instruction.
3. 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=121**.What are value of CX,DX after execution of the following instructions?  
   MOV DX, [SI]  
   MOV CX, [SI+2]  
    **DA: DX = D096  
    CX = D0E0**
4. Select correct match for register values at watch points:  
   MOV AX, 152D  
   ADD AX, 003F  
   watch point #1: **DA : AH = 25**  
   ADD AH, 10  
   watch point #2**: DA: AL = 6C**
5. A memory location located in extra segment which now has value of 564F. This memory managed  
   by ES:SI register­pair. SI now points to 905F. Compute the physical address of this memory  
   location  
    **DA: 5F54F**
6. Select correct match for AL and carry flag at watch point #1:  
   MOV BL, 8C  
   MOV AL, 7E  
   ADD AL, BL  
   watch point #1:  
   DA:  
    **Carry flag set  
    AL 0A**
7. Convert the 32­bit floating point number C4361000 (in hex) to decimal.  
   **DA: ­728,25**
8. Which of the following instructions are not legal addressing?

**DA : MOV AX, [BX+SP]  
 MOV AX, [SP+1]**

1. Compute the physical address of stack top if stack pointer is FFAE and stack segment located at 1DAE  
   **DA: 2DA8E**
2. Sign­extend number 1011 0101 (8­bit binary) to 16­bit  
   **DA: 1111111110110101**
3. The following sequence of instructions are executed. What is the correct value of AX, CX, DX at watch point?  
   MOV AX,30  
   MOV CX,FFFF  
   MUL CX  
   watch point:  
    **DA: CX = FFFF  
    AX = FFD0  
    DX 002F**
4. 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, 31h  
   x\_label:  
   MOV AL, DL  
   watch point:  
   Choose correct value of AL register at watch point for different value of DL?  
    **DA : DL=55h 85h  
    DL=0FFh 41h  
    DL=10 38h  
    DL=8 0FFh**
5. Select correct match for AX (Decimal) at watch points:  
   MOV AX, 1BC  
   MOV CL, 2  
   SHL AX, CL  
   watch point #1**: DA: 1064**ADD AX, 166  
   watch point #2**: DA: 266**SHR AX, CL  
   watch point #3: **DA: 266**  
   SHR AX, CL
6. 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 called

**DA: intersegment mode**

1. Structural components of computer include:  
   **DA: System interconnection  
    Central processing unit  
    I/O  
    Memory**
2. Which could be correct ones for the destination operand in a data movement  
   instruction?  
   **DA: register  
    memory location**
3. the instruction, JMP C008:2000h is an example of  
    **DA: near jump**

**far jump**

1. Given a row of memory image in debug  
   0AE8:0120 13 96 D0 E0 00 40 08 42 - 99 80 3E 20 99 00 75 24  
   SI = 120  
   The following instruction is executed:  
   MOV EAX, [SI+4]  
   Assume the value in EAX is a 32-bit floating-point binary, what is the value of  
   EAX in decimal?  
   **DA: 4000**
2. Given a code snippet:  
   int n = 10;  
   do {  
   n--;  
   } while (n > 0);  
   Which ones are the equivalent logic sequence of instructions in Assembly  
   DA**: mov cx, 10  
    a\_label:  
    .....  
    loop a\_label**

**mov cx, 10  
a\_label:  
dec cx  
cmp cx, 0  
jz e\_label  
jmp a\_label  
e\_label**:

1. The following sequence of instructions are executed. What is the correct  
   value of AX, CX, DX at watch point?  
   MOV AX,30  
   MOV CX,FFFF  
   MUL CX  
   watch point:  
   **DA: CX = FFFF  
    AX = FFD0  
    DX 002F**
2. After executing PUSH EAX instruction, the stack pointer  
   **DA: decrements by 4**
3. the instruction that is used as prefix to an instruction to execute it repeatedly  
   until the CX register becomes zero is

**DA: REP**

1. Write mask byte (in hex) to clear all the lower 7 bits of a byte value with AND  
   instruction.  
   **DA: AND AL, 01111111B**
2. The instruction that subtracts 1 from the contents of the specified register/memory location is  
   **DA: DEC**
3. What is the meaning of Amdahl's law in processor performance evaluation?   
   **DA: the maximum speedup of a multicore processor**
4. Which are the correct actions for LODSW string operation if DF is reset (=0)  
   **DA: increase SI by 2  
    Load 16-bit value at memory location pointed by DS:[SI] into AX**
5. the instruction, CMP to compare source and destination operands by

**DA: subtracting**

1. To balance the super speed of CPU with the slow response of memory, which  
   of the following measures have been made by engineers in system design?  
   **DA: Make wider data bus path  
    Using higher-speed bus and us hierarchy  
    To move data directly by DMA**
2. 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  
   **DA: AX = FFBE  
    DX=0000**
3. In the RCR instruction, the contents of the destination operand undergoes function as  
   **DA: carry flag is pushed into MSB then LSB is pushed into carry flag**
4. Which could be correct ones for the source operand in an instruction?  
   **DA: immediate data**  
    **memory location  
    register**
5. Convert the 32-bit floating point number A3358000 (in hex) to decimal

**DA: -9.83913471531×10^-18**

1. Select correct match for register values at watch points:  
   MOV AX, 152D  
   ADD AX, 003F  
   watch point #1**: DA: AH = 25**  
   ADD AH, 10  
   watch point #2: **DA: AL = 6C**
2. Which are the correct actions for SCASW string operation if DF is set (=1)  
   **DA: Decrease DI by 2  
    Dompare the value in AX register with 16-bit value at the memory location  
    Pointed by ES:[DI] and set/clear flag bits accordingly**
3. 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  
   **DA: SI = 80h  
    AL = 80h**
4. Select the correct sequence of instructions to compute -1024/128 (all values  
   are in hex).  
   **DA: Step 1: CWD  
    Step 2: MOV CX,80  
    Step 3: MOV CL,80  
    Step 4: IDIV CL**
5. Select correct match for AL and carry flag at watch point #1:  
   MOV BL, 8C  
   MOV AL, 7E  
   ADD AL, BL  
   watch point #1:  
   **DA: AL 0A  
    Carry flag set**
6. After executing the POP EAX instruction, the stack pointer  
   **DA: After executing the POP EAX instruction, the stack pointer**
7. Sign-extend number BF (8-bit binary) to 16-bit. Write result in hex  
   **DA: 191**
8. Which of the following instructions are not valid?  
   **DA: MOV DS, B800h  
    MOV SP, SS:[SI+2]**
9. 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:  
   **DA: Zero flag (OF) = reset  
    Carry flag (CF) = set**
10. Major structural components of the CPU include:  
    Select one or more:  
    **DA: Registers  
     Arithmetic and Logic Unit**

**Interconnections  
 Control Unit**

1. Consider a magnetic disk drive with 8 surfaces, 512 tracks per surface, and 64  
   sectors per track. Sector size is 1 kB. What is the disk capacity  
   **DA: 512 KB**
2. What best describe the Spatial and Temporal Locality?

DA:

**Temporal locality : be exploited by keeping recently used instruction and data in cache memory and by exploiting a cache hierarchy**

**Spatial locality : be exploited by moving data between cache and memory more efficient**

1. 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:  
   **DA: cmp ax,bx  
    jl a\_label  
    sub ax,bx  
    jmp x\_label  
    a\_label:  
    sub bx,ax  
    x\_label:**
2. Which of the following is not a data copy/transfer instruction?  
   Select one or more:

**DA: ADC  
 DAS**

1. 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?  
**DA: DL=10 38h  
 DL=8 41h  
 DL=55h 55h  
 DL=0FFh 0FFh**

1. 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:  
   **DA: OF= set  
    CF= undefined**
2. Which could be correct ones  
   Select one or more:  
   **DA: register**

**memory location**

1. Write mask byte (in hex) to clear bit 2nd, 3rd, 5th of a byte value with AND instruction (LSB is 1st bit).  
   **DA: 1001011**
2. 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  
   **DA: intrasegment direct mode**
3. Convert the 32-bit floating point number 44363800 (in hex) to decimal.  
   **DA: 1144403968**
4. 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:  
   **DA: Carry flag (CF) = set  
    Overflow flag (OF) = not defined**
5. In multiplication instruction, when the source operand is 16 bit, how can the result be taken?

**DA: from DX:AX pair**

1. 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]  
   **DA: DX = 203E  
    AX = 8099**
2. Which statements are correct for HDDs?  
   Select one or more:  
   **DA: Head, Track, Sector are key parameters for access data on hard disk  
    Bits are stored on tracks**
3. Which are correct action for SCASW string operation if DF is set (=1)

**DA: compare value in AL register with memory location pointed by ES:[DI]  
 Increase DI by 2**

1. 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  
   **DA: Step 1: MOV AX, [SI]  
    Step 2: SUB AX, [DI]  
    Step 3: SUB AX, [SI]  
    Step 4: MOV BX, 012A**
2. The instruction that supports addition when carry exists is

**DA: ADC**

1. In computer, how does the processor serve multiple interrupt request from devices?  
   Select one:  
   **DA: Each device are assigned an interrupt priority, the device with lower priority will be served.**
2. 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:  
   **DA: Overflow flag (OF) = reset  
    Carry flag (CF) = set**
3. To test one bit in a byte value without destructing the byte, use **\_\_\_\_NOT\_\_\_\_\_\_** instruction.
4. Which are correct about the data registers o  
   Select one or more:  
   **DA: Complete 32-bit registers: EAX, EBX, EC  
    Higher halves of the 32-bit registers can EAH, EAL, EBH, EBL, ECH, ECL, EDH, EDL.**
5. 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:  
   **DA: OF = set  
    CF = set**
6. Choose correct features for SRAM and DRAM  
   **DA:**

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

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

1. 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:  
   **DA: Zero flag (OF) = set  
    Carry flag (CF) = neither set nor reset**
2. Which are correct action for STOSB string operation if DF is reset (=0)

**DA: Store 8-bit value from AL into memory location pointed by DS:[SI]  
 Increase DI by 1**

1. What are components of Von Neumann, namely IAS computer?

**DA: I/O Equipments**

**CPU**

**Memory**

1. Which set of registers are valid for addressing a stack memory location?  
   Select one or more:  
    **DA: SS:BX  
    DS:SI**
2. The instruction that is used for finding out the codes in case of code conversion problems is

**DA: XCHG**

1. To clear one or more bits in a byte value, use **\_\_AND\_\_\_\_\_\_\_\_** in
2. 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:  
   **DA: Zero flag (OF) = not defined  
    Overflow flag (OF) = reset  
    Sign flag (SF) set  
    Carry flag (CF) = set**
3. Enter debug command to fill 256 bytes in data segment starting from 100 with value 0D  
   **DA: ADD 0D, 256[100]**
4. Which are correct action for LODSB string operation if DF is reset (=0)

**DA: Load 8-bit value at memory location pointed by ES:[DI] into AL**

**Decrease DI by 1**

1. Given a code snippet:  
   int n = 10;  
   do {  
   n--;  
   } while (n > 0);  
   Which ones are the equivalent logic sequence of instructions in Assembly

**DA: mov cx, 10  
 a\_label:  
 .....  
 dec cx  
 loop a\_label**

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

**DA: Pipelining**

1. In multiplication instruction, when the source operand is 8 bit, \_\_\_\_\_\_\_\_\_ will be multiplied  
   with source.  
   **DA: Whatever general purpose register**
2. Which are valid based index addressing?

**DA: [BX+DI]  
 [DX+SI]**

1. Memory dump at 1D20  
   1D20:0200 00 20 10 5  
   Given value of register  
   Identify correct value o  
   **DA: AH = 5Dh  
    AL = 10h**
2. 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

**DA:**

**cmp ax,bx  
 ja a\_label  
 sub ax,bx  
 jmp x\_label  
 a\_label:  
 sub bx,ax  
 x\_label:**

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

**DA: direct**

1. Which of the following instructions are not valid?

**DA: MOV DS, B800h  
 MOV SP, SS:[SI+2]**

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

MOV DL,FF

MOV AL,F6 **ĐA: OF = reset , CF = reset**

IMUL DL

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

**ĐA: from AX**

1. Consider the following assembly instruction sequence

CMP DL, 0

JB x\_label

CMP DL, 9 JA a\_label ADD DL, 30h

**Choose... ĐA: DL=10**

JMP x\_label

**Choose...**  **ĐA**: **DL=8**

a\_label:

**Choose... ĐA: DL=55h**

CMP DL, 0Fh

**Choose...** **ĐA: DL=0FFh**

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?

1. 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: **\_\_\_ MOV [SI],200\_\_\_;** possibly missing code

02: MOV AL, 0

03: MOV CX, 8

04: Loop\_label:

05: \_ **\_CWD\_\_;** possibly missing code

06: ADD AX, [SI];

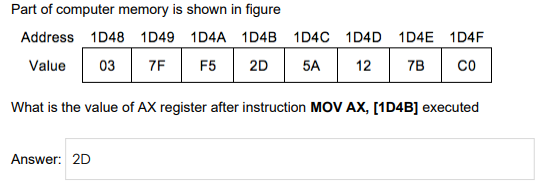
07: INC SI

08: LOOP Loop\_label

1. In multiplication instruction, when the source operand is 8 bit, **\_\_AL\_\_** will be multiplied with source.
2. Which are valid based index addressing?

**ĐA: [BX+DI], [DX+SI], [BX+SI**]

1. **2D**



1. 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:

**ĐA: AX = 020F, DX 0000, CX = 00FF**

1. Which set of registers are valid for addressing a stack memory location? **SS:SP, SS:BP**
2. In computer, how does the processor serve multiple interrupt request from devices?

**Each device are assigned an interrupt priority, the device with higher priority will be served.**

1. 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]

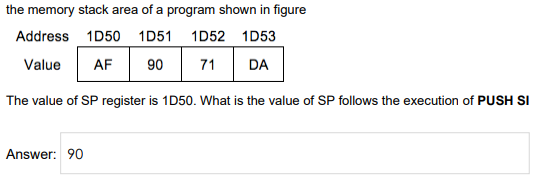
**AX = 203E DX = 8099**

1. Basic functions that a computer can perform including:

**Data movement, Control, Data processing, Data storage**

1. 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:

**Overflow flag (OF) = reset , Carry flag (CF) = reset**



1. To clear one or more bits in a byte value, use \_\_\_**AND**\_\_\_ instruction.
2. The instruction*,* MOV AX, 0005hbelongs to which addressing mode? **Immediate**
3. Which are correct about the data registers of IA-32 processors:

**complete 32-bit registers: EAX, EBX, ECX, EDX**

1. 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:

**Overflow flag (OF) = set, Carry flag (CF) = set, Zero flag (OF) = reset, Sign flag (SF) set**

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

**F 100 1FF 0D**

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

**Pipelining, Branch prediction, Speculative execution**

1. 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:

**CF= reset , OF= reset**

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

**compare value in AL register with memory location pointed by ES:[DI], increase DI by 2**

1. 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: MOV BX, 012A Step 4: MOV [BX], AX**

1. 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 #2: AL = 73, watch point #1: AH = 30**

1. Compute the physical address of the next instruction will be execute if instruction pointer is 091D and code segment located at 1FAF: **2040D**
2. Convert the 32-bit floating point number 44363800 (in hex) to decimal: **1144403968**
3. 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) = reset**

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

**all choices are correct**

1. 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:

**Carry flag (CF) = set, Zero flag (OF) = reset**

1. 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. **AL = 10h, AH = 01h**

Which of the following instructions are not valid**? MOV AX, [BP+2], MOV DS, B800h**

1. 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**: intrasegment direct mode**
2. The instruction that supports addition when carry exists is: **ADC**
3. The instruction that is used for finding out the codes in case of code conversion problems is: **XLAT**
4. Which statements are correct for HDDs?

**Head, Track, Sector are key parameters for access data on hard disk, Bits are stored on tracks**

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

**Load 8-bit value at memory location pointed by ES:[DI] into AL, decrease DI by 1**

1. To test one bit in a byte value without destructing the byte, use \_\_**T EST**\_\_ instruction.
2. What is the correct sequence of instruction cycle?

**Step 5 Calculate operand address**

**Step 2 Decode Step 4 Execution**

**Step 3 Fetch operand**

**Step 1 Fetch opcode**

**Step 6 Store result**

1. Which one best describe cache hit and cache miss?

**Cache miss ratio: the number of memory accesses that CPU must retrieve from the main memory per the total number of memory accesses**

**Cache hit ratio: the number of memory accesses that the CPU can retrieve from the cache per the total number of memory accesses**

1. For cache write policies, which are often used for write­hit and write­miss

**Write­hit Write-­back, Write­miss Write-­allocate**

1. Identify the correct sequence to update a page onto a flash memory?

**Step 3: the entire block is being read from flash into RAM then request data in page is update**

**Step 1: the entire block of flash memory are erased**

**Step 2: The entire block from RAM then is written back to the flash memory**

1. Choose correct set of registers for x86 processor

Data pointer to source memory in extra segment ES**: SI**

Pointer to variable in stack SS: **BP**

Instruction pointer CS**: IP**

Data pointer in data segment DS**: BX**

1. What are components of Von Neumann, namely IAS computer?

**Memory, CPU, Bus, I/O Equipments**

1. Which is not correct about MOORE law?

**The number of transistors that could be put on a single chip was triple every year nowadays. Likely triple after 2000**

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

**Branch prediction, Pipelining, Speculative execution**

1. To balance the super speed of CPU with the slow response of memory, which of the following measures have been made by engineers in system design?

**Make wider data bus path, Make use of both on­chip and off­chip cache memory, Using higher­speed bus and us hierarchy**

1. What is the meaning of Amdahl's law in processor performance evaluation?

**the potential speedup of a program using multiple processor compared to a single processor**

1. What are the processor's instruction categories :

**Data processing, Control, Processor ­- I/O, Processor ­- Memory**

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

**Each device are assigned an interrupt priority, the device with higher priority will be served**

1. Bus is a shared transmission medium, multiple devices connect to it but only one at a time can successfully transmit. Which component in computer facilitates this operation? **Bus Arbiter**
2. When many devices of different transmission speed connect to the same bus, the overall system performance suffers. How did the design engineers resolved this: **Multiple­Bus hierarchies**
3. What are the features of direct­mapping cache organization?

**Thrash ­­> low hit ratio, Simple and inexpensive**

1. Which ones are not correct for static RAM?

**Cheaper than dynamic RAM because simpler chip controller**

**Cost per bit is lower than dynamic RAM**

1. Which one is not correct?

**EEPROM is erasable by exposing under UV**

**PROM is non­volatile memory**

**Flash memory can only be erased electrically byte by byte**

1. Which statements are correct for HDDs?

**Bits are stored on track**

**Head, Track, Sector are key parameters for access data on hard disk**

1. What is correct about the function of TRIM command in SSD?

**Allow OS to notify SSD the presence of occupied blocks of data which are no longer in use and can be erased internally**

1. Which set of registers are valid for addressing a memory location? **DS:SI, DS:BX, CS:IP**
2. Which are valid based index addressing? **[BX+SI], [BX+DI]**
3. Which are valid index addressing? **[SI]**
4. Which are correct about the data registers of IA­32 processors:

**Lower halves of the 16­registers an be used as 8­bit data registers: AH,AL,BH,BL,CH,CL,DH,DL complete 32­bit registers: EAX, EBX, ECX, EDX**

**Lower halves of the 32­registers an be used as 4 16­bit data registers: AX,BX,CX,DX**

1. Which are correct about 32 bit index registers of IA­32 processors:

**EDI: 32 bit pointer to destination memory in data movement instructions**

**DI: 16 bit pointer to destination memory in data movement instructions**

**SI: 16 bit pointer to source memory in data movement instructions**

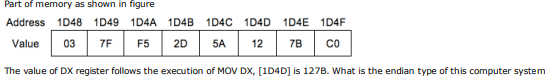
**ESI: 32 bit pointer to source memory in data movement instructions**

1. Which statement is correct about interrupt vector table?

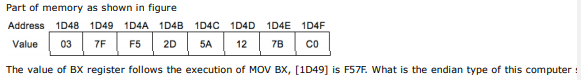
**Take up 1024 bytes in the main memory**

**Store in the beginning area of the main memory**

1. **ĐA: big-endian**



1. **ĐA: little-endian**



1. The value in CS is 1FD0h what is the location of next instruction from 00000h if Instruction pointer is 3CD4h: **3CD5H**
2. Select correct items to describe best about CISC

**Number of clocks per instruction: multi-­clock**

**code size of program: small code size**

**Assembly code: simpler**

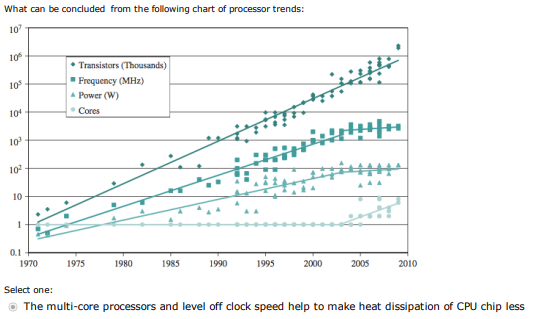
**Instruction set: Complex**

**Bytes per instruction: different for variety of instructions**

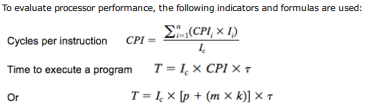
1. What best describe the Spatial and Temporal Locality?

**Temporal locality: be exploited by keeping recently used instruction and data in cache memory and by exploiting a cache hierarchy**

**Spatial locality: be exploited by using larger cache blocks and by incorporating prefetching mechanisms into the cache control logic**







**ĐA: Instruction set architecture , Compiler technology**

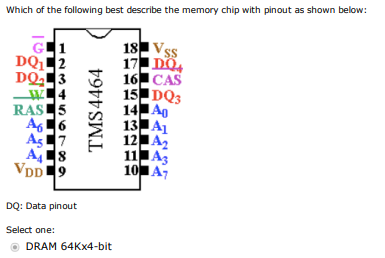
1. To evaluate processor performance, the following indicators and formulas are used: Which of the following system attributes affects cycle time τ

**Processor implementation, Cache and memory hierarchy**

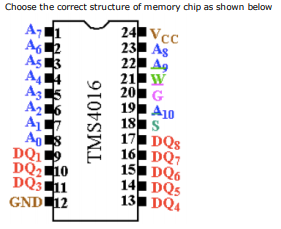
1. Key parameters to consider when evaluating processor hardware include:

**Reliability, performance, power consumption, size, cost**

1. A memory chip has 12 address pins, determine the maximum memory words of this chip? **4096**



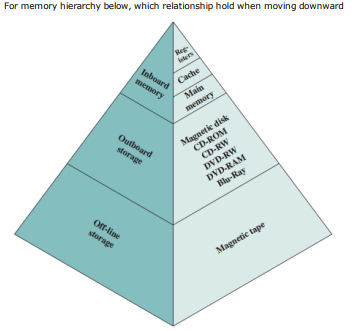
1. **SRAM 2Kx8­bit**



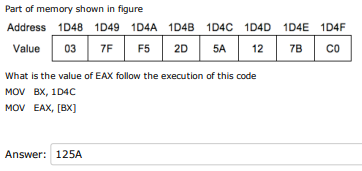
1. The three key characteristics of memory are: capacity, access time and cost. Which of the following relationships hold for a variety of memory technologies?

**Faster access time, greater cost per bit, Greater capacity, smaller cost per bit, Greater capacity, slower access time**

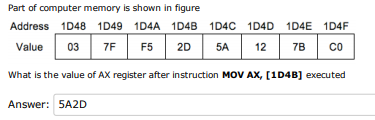
1. A SRAM memory chip labeled 32x8bit. Which of the following is correct pinout regarding address and data lines? **15 address pins, 8 data pins**
2. In the interconnection system, the number of address lines are governs by: **CPU**
3. **Increasing access time, Decreasing cost per bit, Decreasing frequency of access by the processor, Increasing capacity**

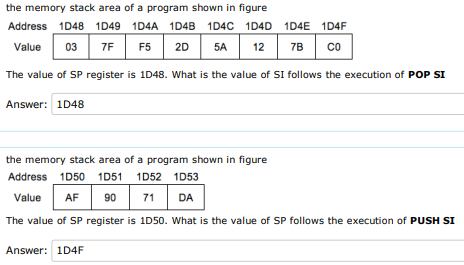


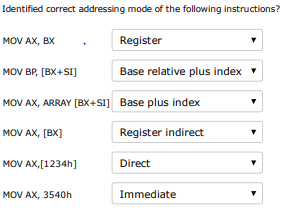


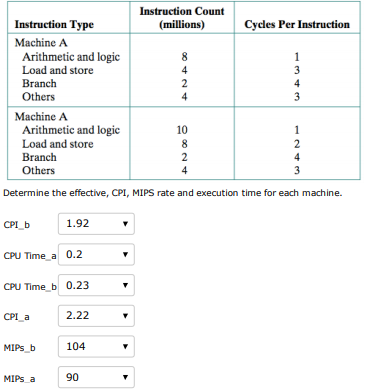






1. 



1. 
2. Choose correct RAID volume definitions for a request 2T storage.

**RAID 1 ­ Mirror volume 2 x 2T HDDs are needed, no data lost when the primary storage fails Spanned Volume 2T HDD + more HDDs to extend storage, no fault tolerance, data lost when one HDD fails**

**RAID 0 ­ Striped volume 2 x 1T HDDs are needed, enhance data transfer, no fault tolerance, data lost when one HDD fails**

**RAID5 Volume At least 3 x 2T HDDs, fault­tolerance, no data lost, no down­time**

1. Consider a 32­bit microprocessor whose bus cycle is the same duration as that of a 16­bit microprocessor. Assume that, on average, 30% of the operands and instructions are 32 bits long, 40% are 16 bits long, and 30% are only 8 bits long. Calculate the improvement achieved when fetching instructions and operands with the 32­bit microprocessor? **23%**
2. Consider a magnetic disk drive with 8 surfaces, 512 tracks per surface, and 64 sectors per track. Sector size is 1 kB, the average seek time is 10.2 ms and the drive rotates at 3600 rpm. What is average access time. Given: Rotational delay = 1/(2r), where r is the rotational speed in revolutions per second: **16.3**
3. Convert the 32-bit floating point number 44363C00 (in hex) to decimal

**DA: 1144404992**

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

**DA: SUB**

1. 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?

**DA: DI = 0202h**

**AX = 5040h**

**SI = 5547h**

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

**DA: compare value in AL register with memory location pointed by ES:[DI]**

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

**ĐA: Base Pointer (BP): The 16 bit pointer refers to stack memory**

**Instruction Pointer (IP): the 16 bit register points to the next instruction to be execute**

**Stack Pointer (ESP): the 32 bit pointer to the top of stack**

1. What are components of Von Neumann, namely IAS computer?

**DA:** **Bus Memory CPU**

1. Which statements are correct for HDDs?

**DA: Head, Track, Sector are key parameters for access data on hard disk**

**Bits are stored on tracks**

1. The instruction that loads effective address is

**DA: LEA**

1. 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:

**DA: EAX = 00000002**

**EDX = 00000000**

**EBX = 00021000**

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

Select one:

**DA: Immediate addressing mode**

1. 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:

**DA: Carry flag (CF) = reset**

**Overflow flag (OF) = reset**

1. 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:

**DA: Zero flag (OF) = set**

**Overflow flag (OF) = reset**

**Sign flag (SF) reset**

**Carry flag (CF) = reset**

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

**DA: Each device are assigned an interrupt priority, the device with higher priority will be served.**

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

**DA: intrasegment mode**

1. in multiplication instruction, the result is taken from AX means the source operand is bit

**DA: 8**

1. 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?

**DA: SI = 020Ch**

**DI = 4030h**

**AX = 020Bh**

1. 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:

**DA: SI 308h**

**AL = 70h**

1. Basic functions that a computer can perform including:

**DA: Direct memory access Data processing Control Data storage**

1. 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

**DA: cmp ax,bx**

**jbe a\_label**

**sub ax,bx**

**jmp x\_label a\_label:**

**sub bx,ax x\_label:**

1. 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

**DA: CLD cp\_loop: REP MOVSB LOOP cp\_loo**

1. After each execution of POP instruction, the stack pointer is

**DA: increment by 1**

1. 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]

**DA: EDX = 99007524**

**EAX = 203E8099**

1. Which are valid based indexed addressing?

**DA: [BX][SI]**

1. 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?

**DA: DL=0FFh 11h**

**DL=10 01h**

**DL=17h 01h**

**DL=0Ah 28h**

1. To set one or more bits in a byte value, use \_\_\_\_ **OR** \_\_\_\_\_\_ instruction
2. Major structural components of the CPU include:

**DA: Arithmetic and Logic Unit Control Unit Instruction Pointer (PC)**

1. Select correct match for AL and carry flag at watch point #1: MOV BL, 8C

MOV AL, 7E ADD AL, BL

watch point #1:

**DA: AL set**

**Carry flag 0A**

1. 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: --- **JMP a\_label** -------- ; possibly missing code 03: CMP DL, 9

04: ----- **empty** ------- ; possibly missing code 05: ADD DL, 30h

06: **----JMP x\_label**-- ; possibly missing code a\_label:

08: CMP DL, 0Fh

09: ------ **empty** ------ ; possibly missing code 10: ADD DL, 55

x\_label:

12: MOV AL, DL

...

1. 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):  **AX = 2C07**  
MOV AX, [BP+2]  
watch point #2 (AX): **BP = FFF8**  
ADD AX, [BP+4]  
watch point #3 (AX): **SUB AX, [SI]**  
MOV DI, 120  
MOV [DI], AX

1. 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: ---- **Empty** ----- ; possibly missing code 03: MOV AL,33

04: MOV CX,5

a\_label:

05: --- **INC DI** --- ; possibly missing code 06: CMP Byte Ptr [DI],AL

07: --**DEC DI**--- ; possibly missing code 08: LOOPNZ a\_label

...

1. 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?

**DA: DX**

1. 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

DA: AX= FFF6

DX= 6000

1. the instruction, CMP to compare source and destination operands by

**DA: comparing**

1. To test one bit in a byte value which can be destructive. Use **TEST** instruction.
2. Which are correct input for XLAT instruction

**DA: DS:[BX] pointed to look-up table**

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

**DA: increase SI by 2**

**Load 16-bit value at memory location pointed by ES:[DI] into AX**

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

**DA: OF = reset**

**CF = reset**

1. 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:

**DA: AX = FF00**

**DX = FFBE**

Đề 1:

60 sentences of computer structure and assembly language

1. What type of program contains code, data and stack in separate segments?   
a.EXE b.Coc c.Com   *d.ASM*   
2. When loading an exe program into memory to execute, the loader stores the PSP address in the DS ES registers , the stack's address in the register  \_SS \_\_ and the size of the stack in the register   \_ SP \_   
  
3. POP command CX \_\_ restores the word from where the SP code points to in the stack to the CX register and SP layer   
4. Directions   \_ END \_ ending program definition   
5. Statement DB 12 DUP ( 50) defines 12 bytes to start with the value \_\_\_ 50

(Math T U DUP pl po à l To sir i d staid ệ UVs is abominable l e n any given. Cu

Strategy: Count DUP (s d u Stand Hem) -> pl sir à l i d staid ệ UVs l e n Count is abominable. )   
  
6. Assuming Intel 8086 in real mode, offset is 24h, segment register contains 0B500h, calculating physical address   
a.0B524h   b.0B5024h   c.24B5h d.240B5h   
7. A limited COM program in a SE\_MENT\_\_and a maximum size of \_ 64K \_\_   
8. The command to start a register with an offset address is the command   
a.PUSH b.MOVZX   c.LEA   d.MOVSX e. CD   
9. A OFFSET \_\_ address is limited to -32768 to 32767 bye within the same segment.   
10.Then \_ CF \_    contains a memory bit (0 or 1) from the high order bit in mathematical operations and some translation and spin commands.   
11. At \_ SF \_\_   set after the arithmetic operation: positive set of 0 negative set is 1.   
12. The Hex key for Tab key is 09 for Line feed   \_ A carriage return \_\_va la\_ D \_

Common control characters are:

ASCII code (Hex) SYMBOL FUNCTION

7 BEL beep

8 BS backspace

9 HT tab

A feed LF

D CR carriage return

\_ \_ \_ 02H 13.Chuc performance of interrupt 10h locate the cursor   
14. Which support line is not found in 8086 system in min mode   
a. Cache controller b.Clock generator   c. Bus controller   d.Lanch page (more clearly)   
15. D determines the processing direction of the string: left to right uses the command \_ CLD \_\_to delete the flag D, right to left using the command \_ STD\_\_ to set the flag D.   
16. The largest positive value for the signed number in the 8-bit register is \_ 127 \_   
17. To multiply bytes with bytes, multiply the number a in register \_ AL \_, and multiply by 1 byte in memory or register, after multiplying, the product is contained in register\_ AX \_\_   
18. For division, the command \_ DIV \_\_ handles unsigned data, while the command \_IDIV \_ processes the signed data   
19. The AAA command checks whether the rightmost Hex number of AL is greater than\_ 9 \_\_or A flag is present   
\_\_\_ = 1 \_\_ leftmost Hex number in \_ AL \_\_   
20. In the Bus microprocessor system are: A group of wires connecting devices in the computer system.Bus is used to transmit addresses , data , control information between processor and IO device memory. .   
U which data transmission, Information

21. In the microprocessor system, before executing the program is contained in   
a.In the input and output ports b. The buffer in the processor c.On the data bus   d.In semiconductor memory   
22. When there are queues the program command will execute quickly because:   
a.Not take the cycle of taking commands from memory   
b.Order execution process is performed simultaneously with the execution of the command   
c.Order execution process takes place faster   
d.Order taking process takes place faster   
23. To access memory, CPU provides address for memory   
a.Logic   b.Property c.Demanding (offset) d.Position (segment)   
24. The DX record bar is a bar   
Multi-function b.Code c. Address   d.Data   
25. Can the following registers be used to hold the displacement address when accessing data memory?   
a.IP, SP, AH, AL   b.CS, DS, ES, SS c.BX, BP, DI, SI d.AX, BX, CX, DX   
26. Which record is the default number of points in repeat commands?   
a.BX   b.CX   c.AX d.DX   
27. Which registers hold results in 16bit multiplication instructions?   
a.AX and BX b.AX and DI   c.AX and DX   d.AX and CX   
28. Zero (ZF) of 80286 CPU is repeated up to 1:   
a. Results of calculations are 0   
b. Results of other calculations 0   
c. Results of calculations are greater than 0   
d. Results of calculations are less than 0   
29. Declaring the following data, no declaration of error   
a. Xon DB 1,2,3, fh   
b.Yes DB 4.7, h, 9   
c.Rel DB 19,7,6,10,3   
d.Anh DB 9,3,8,7,0 // 1 byte

Variable name array DB / DW / DD Initial values

*For example:*

M1 DB 4,5,6,7,8,9   
30. In background index address mode, the data used in the command is in a memory cell with the address equal to   
Value in the BX or BP register   
b. The value contained in the DI or SI register   
c. The value contained in the BX or BP register plus the value contained in DI or SI plus the displacement    
d. The value contained in DI or SI register plus some displacement   
  
31. After executing the command    
MOV AH, 05   
MOV AL, 03   
XCHG AH, AL   
a.AH = 03, AL = 05   b.AH = AL = 03 c.AH = AL = 05 d.AH = 05, AL = 03   
32. (clear)   
then after executing the command   
MOV AL, 3   
LEA BX, LP   
XFLAT   
will be   
a.BX = 1000H, AL = 27H   b.0000H, AL = 27 c.BX = 0027h, AL = 0 d.BX = 1000H, AL = 1Bh   
33. Let AL = 9, AH = 7, after executing the following commands AX will be equal to   
ADD AL, AH   
DAA   
ADD AX, 3030H   
ADD AL, AH   
AAA   
a.0007h b.0037h c.3803h   d.3037h   
34. Assume AX = 9, BX = 12 after executing the command CMP AX, BX will have:   
a.CF = 0, ZF = 0 b.CF = 0, ZF = 1 c.CF = 1, ZF = 0   d.CF = 1, ZF = 1   
35. Assume AH = 02, AL = 03 after running the MUL AH command will be:   
a.AH = 02 bAHAH = 06   c.AH = 0   d.AH = 03   
36. Assume the AL contains the ASCII code of a number from 0 to 9 after the AND AL, 0FH instruction   
a.AL = 0   b.AL is the BCD code of that number   
c.AL is still the ASCII code of that number d.AL = 0FH   
37. To reverse the state of the bits in a register   
a.XOR it with 00H b.OR it with FFH c.AND it with FFH   d. FIND it with FFH   
38. Assuming AL = 35H, CL = 4 after the command SHR AL, CL will be   
a.AL = 5, CL = 0   b.AL = 3, CL = 4   c.AL = 3, CL = 0 d.AL = 5, CL = 4   
39. The JPE M instruction switches the program control to the M label when   
a.PF = 1 b.ZF = 0   c.ZF = 1   d.PF = 0   
40. After the LOOP command, the values ​​can be changed   
a.BX and CF b.BX and ZF   c.CX and CF   d.CX and ZF   
41. Making 21h interrupts of Dos is a function   
a. Control the operating system   
b.Show one character on the screen   
c.Have a character string on the screen   
d.Enter a character from the keyboard   
42. Offset 2 of number 00101111 is   
a.10110111 b.01010100 c.11001000   d.11010001   
43. Waiting for orders to allow the processor to do   
Go through unwanted commands   
b.Process multiple commands at a time   
c. Wait for the next order to be executed   
d. before and load the commands   
44.Stack segment contains   
a. Memory read only   
b.Data is defined by a program by number, and workspace   
c.The values ​​that a program needs to save temporarily   
d.Command commands to execute   
  
45. Any sign that indicates the characters following it is the comment   
a.White space b.Play c   d. Semi-colon   
46. ​​To run each command in the program using debug, we use the command   
aR               See or edit nd register                                                                                                       father                Translate a ct to machine code                                                                                                       cP                Run step by step                                                                                                                                   dQ Exit ct debug and return to the operating system   
47. In an exe program we must   
a.Start value for AX register   
b.Start the value for the DS register   
c.No need to start the value for DS    
d.All three statements are wrong   
48. Order MOVSB   Each time moving a data byte from source to destination, simultaneously increasing or decreasing DI and SI registers per unit   
49. To put content from the 1234h into the AL register, we use the command   
a.IN 1234h b.IN AL, 1234h   c.MOV DX, 1234h and IN AL, DX   d.MOV AL, DX   
50. To adjust the subtraction of 2 compressed BCD numbers, use the command   
a.DAS   b.AAS c.AAA d.DAA   
  
51. What is the purpose of BHE signal?   
a. Allows access to high bytes of a word   
b.To allow low byte access or word   
c.Allow access to an entire word   
Allow to hang the bus   
52. Why does the 8086 have address bus and multiplexed data   
a.To increase performance    
Allow memory to be slower   
c.To simplify external circuits   
d.To save the number of pins of the processor   
53.8086 has data bus and multiplexed address, how to demultiplex.   
a.Circuit latch   b.Bus transceiver c.Bus controller d. Clock generator   
54. A 8086 bus cycle takes at least 4 clock cycles, if the processor has a clock frequency of 4MHz, the maximum speed of the data bus is:   
a.4Mb / s b.4MB / s c.2MB / s d.20MB / s   
55. What follows is not a feature of 8086   
a. Fully backward compatible with 8086   
Physical memory 16MB   
c. Support real mode and protected mode   
d. 32-bit / 16-bit multipurpose registers   
56. Protected mode in 80286 implemented to support   
Multitasking operating systems   
b.Over ... processes   
c. Cache   
d …… Security    
57. The main purpose of processor 8038   
Control cache   
b.access disk ... fast   
c.Fast execution of operations ....   
Still physical memory   
58. To decompile memory content into assembly language code we use the command:   
aA bR   cU   DF   
59. Use commands ... to load the contents of the COM file into memory at offset address ...   
aN 300   bI 100   cW 100 dP 100   
60. To execute the command in debug we use the command   
aP bT cR   d. Both a and b

**Đề 2:**

1. What type of program contains code, data and stack in separate segments?   
a.EXE b.Coc c.Com   ***d.ASM***   
2. When loading an exe program into memory to execute, the loader stores the PSP's address in the registers and address of the stack in the register.  ***SS***\_ \_\_ and the size of the stack in the register   ***SP*** \_\_

3. The \_\_\_ command restores the word from where the SP code points to the stack into the CX register and SP layer   
4. Directions   END \_\_ ending program definition   
5. Statement DB 12 DUP (50) defines 12 bytes to start with the value \_\_\_ **50**   
6. Assuming Intel 8086 in real mode, offset is 24h, segment register contains 0B500h, calculate physical address = 0b500 + 24   
a.0B524h   **b.0B5024h**   c.24B5h d.240B5h   
7. A limited COM program in a SEGMENT\_\_ and the maximum size is \_\_\_ **64K**   
8. The command to start a register with an offset address is the command   
a.PUSH b.MOVZX   **c.LEA**  d.MOVSX e. CD   
9. A OFFSET \_\_ address is limited to -32768 to 32767 bye within the same segment.   
10.Then \_\_\_   CF   contains a memory bit (0 or 1) from the high order bit in mathematical operations and some translation and spin commands.   
11. At the same time \_\_\_ SF   set after the arithmetic operation: positive set of 0 negative set is 1.   
12. The Hex key for Tab key is 09 for Line feed   A \_\_\_ and carriage return is\_\_ 15\_ ??????   
13. Function \_03H \_\_ of 10h interrupt determines the cursor position : 02h   
**14.** Which support line is not found in the 8086 system in min mode   
a.Cache controller b.Clock generator   c.Bus controller   d.Lanch page (more clearly)   
15. D determines the processing direction of the string: left to right uses the command \_ CLD \_ to delete flag D, right to left using the command \_ STD \_\_ to set the flag D.   
16. The largest positive value for the number marked in 8-bit register is \_ 80 \_\_D ------------ 127   
Byte for byte 17.De personnel, staff numbers were contained in ghi\_ AX\_ \_ bar, and the multiplier is 1 byte in memory or registers, after the human, is contained in the bar area ghi\_ DX, AX \_\_ ---- ---- AL - AX   
18. For division, the command \_\_ DIV \_ processes the data without accents, while the command \_IDIV \_ processes the signed data   
19. The AAA command checks whether the rightmost Hex number of AL is greater than\_ 9 \_\_or A flag is present = 1   
20. In the bus processor system is:   Transmission line between CPU and intermediate support chips   
Data Transfer , Information   
21. In the microprocessor system, before executing the program is contained in   
a.In the entrance gate

b. Buffers in the processor

c.On the data bus

**d.In semiconductor memory**   
22. When there are queues the program command will execute quickly because:   
**a.Not take the cycle of taking commands from memory**   
b.Order execution process is performed simultaneously with the execution of the command   
c.Order execution process takes place faster   
d.Order taking process takes place faster   
23. To access memory, CPU provides address for memory   
**a.Logic**   b.Property c.Demanding (offset) d.Position (segment)   
24. The DX record bar is a bar   
Multi-function b.Code c. Address   **d.Data**   
25. Can the following registers be used to hold the displacement address when accessing data memory?   
**a.IP, SP, AH, AL**   b.CS, DS, ES, SS c.BX, BP, DI, SI d.AX, BX, CX, DX   
26.Thanh are default record keeping in order the empire m loop?   
a.BX   **b.CX**  c.AX d.DX   
27. Which registers hold results in 16bit multiplication instructions?   
a.AX and BX b.AX and DI   **c.AX and DX**   d.AX and CX   
28. Zero (ZF) of 80286 CPU is repeated up to 1:   
Results of calculations are 0 or equal   
**b. Results of other calculations 0**   
c. Results of calculations are greater than 0   
d. Results of calculations are less than 0   
29. Declaring the following data, no declaration of error   
a. Xon DB 1,2,3, fh   
b.Yes DB 4.7, h, 9   
c.Rel DB 19,7,6,10,3   
d.Anh DB 9,3,8,7,0   
***30. In background index address mode, the data used in the command is in a memory cell with the address equal to***   
**Value in the BX or BP register**   
b. The value contained in the DI or SI register   
c. The value contained in the BX or BP register plus the value contained in DI or SI plus the displacement    
d. The value contained in DI or SI register plus some displacement   
  
31. After executing the command    
MOV AH, 05   
MOV AL, 03   
XCHG AH, AL   
**a.AH = 03, AL = 05**   b.AH = AL = 03 c.AH = AL = 05 d.AH = 05, AL = 03   
***32. (clear)***   
***then after executing the command***   
MOV AL, 3   
LEA BX, LP   
XFLAT   
will be   
**a.BX = 1000H, AL = 27H**   b.0000H, AL = 27 c.BX = 0027h, AL = 0 d.BX = 1000H, AL = 1Bh   
33. Let AL = 9, AH = 7, after executing the following commands AX will be equal to   
ADD AL, AH   
DAA   
ADD AX, 3030H   
ADD AL, AH   
AAA   
a.0007h b.0037h c.3803h   **d.3037h**   
34. Assume AX = 9, BX = 12 after executing the command CMP AX, BX will have:   
a.CF = 0, ZF = 0 b.CF = 0, ZF = 1 c.CF = 1, ZF = 0   **d.CF = 1, ZF = 1**   
35. Assume AH = 02, AL = 03 after running the MUL AH command will be:   
a.AH = 02 bAHAH = 06   **c.AH = 0**   d.AH = 03   
36. Assume the AL contains the ASCII code of a number from 0 to 9 after the AND AL, 0FH instruction   
a.AL = 0   **b.AL is the BCD code of that number**   
c.AL is still the ASCII code of that number d.AL = 0F u H   
37. To reverse the state of the bits in a register   
a.XOR it with 00H b.OR it with FFH c.AND it with FFH  **d.XOR it with FFH**   
38. Assuming AL = 35H, CL = 4 after the command SHR AL, CL will be   
a.AL = 5, CL = 0   **b.AL = 3, CL = 4**   c.AL = 3, CL = 0 d.AL = 5, CL = 4   
39. The JPE M instruction switches the program control to the M label when   
a.PF = 1 b.ZF = 0   **c.ZF = 1**  d.PF = 0   
40. After the LOOP command, the values ​​can be changed   
a.BX and CF b.BX and ZF   **c.CX and CF**   d.CX and ZF   
41. Making 21h interrupts of Dos is a function   
a. Control the operating system   
**b.Show one character on the screen**   
c.Have a character string on the screen   
d.Enter a character from the keyboard ?   
42. Clearing 2 of No. 00101111 is   
a.10110111 b.01010100 c.11001000   **d.11010001**   
43. **Command queue allows the processor to do** What is the mechanism for continuous processing of the code line?   
Go through unwanted commands   
b.Process multiple commands at a time   
c. Wait for the next order to be executed   
**d. before and load the commands**   
44. **Stack segment** contains ???   
a. Memory read only   
**b.Data is defined by a program by number, and workspace**   
c.The values ​​that a program needs to save temporarily   
d.Command commands to execute   
  
45. Any sign that indicates the characters following it is the comment   
a.White space b.Play c   **d**   
46. ​​To run each command in the program using debug, we use the command (or T)   
aR bA   **cP**   dQ   
47. In an exe program we must   
a.Start value for AX register   
**b.Start the value for the DS register**   
c.No need to start the value for DS    
d.All three statements are wrong   
48. Order   **MOVSB** \_\_ and **CMPSB** \_ each time moving a data byte from source to destination, simultaneously increasing or decreasing DI registers, SI one unit   
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Physical memory 16MB   
c. Support real mode and protected mode   
d. 3- bit multi-purpose registers   
56. Protected mode in 80286 implemented to support   
Multitasking operating systems   
b.Over ... processes   
c. Cache   
d …… Security    
57. 8038 processor main purpose ???   
Control cache   
b.access disk ... fast   
c.Thuc quick manipulation ....   
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= aP bT cR   **d.A both a and b**