

1-If DS= 2000H and DF=1 and SI = 1000H and the memory locations have the following data
 What will be the value stored in the registers AX , SI , and DS after the execution of the following instruction. (2 Marks)

LODSW

Address	Contents
21005	12H
21004	1AH
21003	3BH
21002	56H
21001	74H
21000	2AH
20FFF	04H
20FFE	8FH
20FFD	7CH

AX = 042AH
SI = 0FFEH
DS = 2000H

2 - If DI = 2000H. What will be the value stored in register DI after the execution of the following instruction. (1 Mark)

```
STD
MOVE CX , 30
REP INSW
```

DI = 1FC4H

3- Write a sequence of instructions using the shift instruction that multiply the contents of the accumulator AX by 25 and store the result in DX register. (2 Marks)

```
; 25 = 16 + 8 + 1 = 24 + 23 + 1
MOV DX, AX ; Store AX in DX
MOV BX, AX ; Store AX in BX
SHL AX, 4 ; Multiply by 16
SHL BX, 3 ; Multiply by 8
ADD AX, BX ; Add to produce AX * 24
ADD DX, AX ; Add to produce AX*24 + AX
```

4- Write the value stored in AL, SI, CX after the execution of the following code. (2 Marks)

```
.DATA
GRADES DB 15,12,14,10, 18, 16,11,17,19,9
.CODE
MOV AL,0           AL = 40H
MOV SI,1           SI = 000BH
MOV CX,5           CX = 0000H
L1:
    ADD AL,GRADES[SI]
    ADD SI,2
LOOP L1
```

5- IF AX= 8345H and CX = 9FDAH , BX= 037AH and DX = 00D7H
What are the values stored in AX,BX.CX.DX, CF after the execution of the following code.
(2 Marks)

```
ADD AX,CX
ADC BX,DX
```

```
AX = 231FH
BX = 0452H
CX = 9FDAH
DX = 00D7H
CF = 0
```

6- If BL = 2DH and DL = 4AH what are the values stored in BL and DL after the execution of the following instruction. (1 Mark)

```
XADD BL , DL
```

```
BL = 77H
DL = 2DH
```

7- IF AX= 0345H and SI = 01DAH , BX= 037AH and DI = 05D7H
What are the values stored in AX,BX.SI.DI, CF after the execution of the following code.
(2 Marks)

SUB AX,DI
SBB BX,SI

AX = 0FD6EH

BX = 019FH

DI = 05D7H

SI = 01DAH

8- IF AX= 0345H and CX = 0FDAH , and DX = 00D7H
What are the values stored in AX,CX.DX, and CF after the execution of the following code.
(1 Mark)

CMPXCHG CX,DX

AX = 0FDAH

CX = 0FDAH

DX = 007DH

CF = 1

9- What are the values stored in the register after the execution of the following code. (1 Mark)

MOV BL, 5FH
MOV CL ,20H
MOV AL,CL
MUL BL
MOV DX,AX

AX = 0BE0H

CL = 20H

DX = 0BE0H

BL = 5FH

10- What are the values stored in the register after the execution of the following code. (1 Mark)

```
MOV BX, 0404H
MOV CX, 0005H
MOV AX, 5050H
MUL CX
```

```
AX = 9190H
CX = 0005H
DX = 0001H
BX = 0404H
```

11- What are the values stored in the register after the execution of the following code. (1 Mark)

```
MOV AL, 0F5H
MOV AH, 00H
MOV BX, 5A08H
DIV BL
```

```
AL = 1EH
AH = 05H
BL = 08H
BH = 5AH
```

12- Write a single instruction that sets (1) the right most five bits of DI without changing the remaining bits of DI.

```
OR DI,001FH
```

13- Write a single instruction that resets (0) the left most seven bits of BX without changing the remaining bits of BX. (1 Mark)

```
AND BX,01FFH
```

14- IF CX =1234H and BX=75FDH what is the value stored in CX after the execution of the following instruction. (1 Mark)

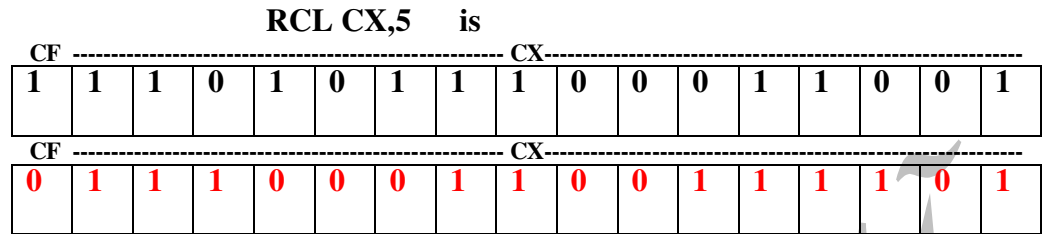
```
TEST CX,BX
```

```
CX = 1234H
```

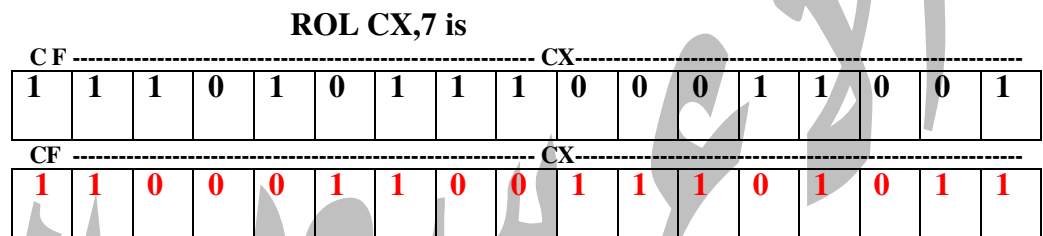
```
BX=75FDH
```

```
ZF = 0
```

15- If CX contains 1101011100011001 as shown in fig then the result of the instruction.
CF is the carry flag. (1 Mark)



16- If CX contains 1101011100011001 as shown in fig then the result of the instruction.
CF is the carry flag. (1 Mark)



17- What are the values stored in the register after the execution of the following code. (1 Mark)

```
MOV EAX,02FA8BCDH
BSWAP EAX
```

AX = 0FA02H

EAX = 0CD8BFA02H

18- If the memory location LIST1 contains 5B7A812F3E4CH. What will be the value stored in the following registers after the execution of the following instruction. (1 Mark)

```
LDS EDI , LIST1
```

DI = 3E4CH
DS = 5B7AH
EDI = 812F3E4CH