QUESTION=fillblanks, BLANKS=1, CATEGORY=MEDIUM

Consider that the stack pointer SP has 0x1BH. The memory location 1B has 0x25H. Now execute the following instruction.

```
POP SP
```

After this execution, the content of SP is 0x_____ H.

BLANK=text, MARKS=1.0, ANSWER ='25'

ANSDESC=

Students to realize that loop increments 100 times and there will be an overflow. However, since the overflow is due to INC the PSW will not be affected.

==========

QUESTION=fillblanks, BLANKS=2, CATEGORY=MEDIUM

Consider that the following code is executed in 8051.

```
ORG 0000H
LJMP START
ORG 100H
START: MOV R1,#0DFH
MOV R2,#64H
LOOP: INC R1
DJNZ R2,LOOP
INC R1
MOV 53H,R1
HERE: SJMP HERE
END
```

After execution of this program, the value stored in location 0x53H is 0x____H and the value of PSW will be 0x____H.

BLANK=text, MARKS=1.0, ANSWER ='44'

BLANK=text, MARKS=1.0, ANSWER ='00'

ANSDESC=

Students to realize that loop increments 100 times and there will be an overflow. However, since the overflow is due to INC the PSW will not be affected.

==========

QUESTION=singlecorrect, MARKS=1.00, CATEGORY=DIFFICULT

What does the instruction `MOV P1.0, C` do ?

OPTIONS=

A. Writes the value of carry bit on to port pin P1.0

B. Writes the value of carry bit on to port latch P1.0

C. Writes the value of port pin P1.0 onto the carry bit

D. Writes the value of port latch P1.0 onto the carry bit

ANSWER=A

ANSDESC=

answer explanation can be mentioned here

==========

QUESTION=singlecorrect, MARKS=1.00, CATEGORY=DIFFICULT

Choose the option in which **all** statements are correct regarding the below commands.
Each command is referred to by its label i.e. command1 refers to JB P1.2, there

command1: JNB E0H, there

OPTIONS=

A. command1 transfers control to the code at label there if the LSB of register B value 0. If the LSB of B has value 1, the next instruction in the program is executed

B. command1 transfers control to the code at label there if the LSB of register A value 0. If the LSB of A has value 1, the next instruction in the program is executed.

C. command1 transfers control to the code at label there if the value in register B is 0. If the value of B is 0, the next instruction in the program is executed.

D. command1 transfers control to the code at label there if the value in register A is 1. If the value of A is 0, the next instruction in the program is executed.

E.

ANSWER=B

ANSDESC=

answer explanation can be mentioned here

==========

QUESTION=setcorrect, MARKS=2.00, CATEGORY=MEDIUM

Which of the following assembly instruction(s) is/are invalid in 8051 ?

OPTIONS=

A. MOV A, @R2

B. MOV #50H, 50H

C. MOV 50H, #50H

D. MOV 50H, A

E. MOV A, #EFH

ANSWER=A,B,E

ANSDESC=

Only R0, R1 are allowed as @Ri, moving into data is incorrect, in mnemonic it has to be a numeral after # (#0EFH is valid)

==========

QUESTION=fillblanks, BLANKS=2, CATEGORY=MEDIUM

What is the state of the B register and PSW after the following code is executed?

Note: Address of B register is 0F0H.

```
MOV A, #2EH
MOV R0,#0F0H
MOV B,00H
ADD A,B
MOV @R0,A
JNC cy_check
ADD A,B
MOV 0F0H,A
JMP stop
```

```
cy_check:MOV 0F0H,@R0

stop:JMP stop
```

The final value stored in register B is 0x____ and the PSW is 0x ____.

BLANK=text, MARKS=1.0, ANSWER ='3C'

BLANK=text, MARKS=1.0, ANSWER ='80'

ANSDESC=

Students to realize that R0 is 00H, and CY flag is set in the addition.

==========

QUESTION=fillblanks, BLANKS=2, CATEGORY=MEDIUM

Give the final result of running this code, if port-1 pins of 8051 are connected to an 8-bit Analog-to-digital (ADC) converter whose output value is 0x17H. The value stored in 50H is 0x____ H and that stored in 51H is 0x___ H.

```
MOV A, P1

MOV 50H, A

MOV 51H, A

ANL 50H, #0FH

ANL 51H, #0F0H
```

BLANK=text, MARKS=1.0, ANSWER ='07'

BLANK=text, MARKS=1.0, ANSWER ='10'

ANSDESC=

answer explanation can be mentioned here

==========

QUESTION=fillblanks, BLANKS=4, CATEGORY=MEDIUM

Consider that the following code is executed in 8051.

```
CLR PSW.3
CLR PSW.4
SETB C
```

```
MOV R0, #8EH
MOV R1, #0D9H
MOV R2, #1AH
MOV R3, #1CH
MOV A, #0A8H

SETB PSW.3
PUSH 02H
PUSH 03H

SUBB A, R0
ADD A, R1
MOV R1, A

POP 02H
POP 03H
```

After execution, the value stored in location 0x00 is 0x____; in location 0x01 is 0x____; in location 0x02 is 0x____H ; and in location 0x03 is 0x____H.

BLANK=text, MARKS=1.0, ANSWER ='8E'

BLANK=text, MARKS=1.0, ANSWER ='D9'

BLANK=text, MARKS=1.0, ANSWER ='A9'

BLANK=text, MARKS=1.0, ANSWER ='1A'

ANSDESC=

Students to realize that PSW flags can change R0, R1, R2, R3. They need to understand functioning of stack/stack-pointer.

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