**TASK1 EXPT3**

**Program - 1**

Write and assemble a program to load values into each of registers R0 - R4 and then push each of these registers onto the stack. Single-step the program, and examine the stack and the SP register after the execution of each instruction.

ORG 0000H

MOV R0, #25H

MOV R1, #35H

MOV R2, #45H

MOV R3, #55H

MOV R4, #65H

PUSH 0

PUSH 1

PUSH 2

PUSH 3

PUSH 4

END

**Program - 2**

Write an 8051 assemble language program to:

(a) Set SP = 0D,

(b) Put a different value in each of RAM locations 0D, 0C, 0B, 0A, 09 and 08

(c) POP each stack location into registers R0 - R4.

Use the simulator to single-step and examine the registers, the stack, and the stack pointer.

ORG 0000H

MOV SP, #0DH

MOV 08H, #10H

MOV 09H, #11H

MOV 0AH, #12H

MOV 0BH, #13H

MOV 0CH, #14H

MOV 0DH, #16H

POP 0

POP 1

POP 2

POP 3

POP 4

END

**Program-3**

Write and assemble a program to load values into each of registers R0 - R4 and then push each of these registers onto the stack and pop them back. Single-step the program, and examine the stack and the SP register after the execution of each instruction.

ORG 0000H

MOV R0, #25H

MOV R1, #35H

MOV R2, #45H

MOV R3, #55H

MOV R4, #65H

PUSH 0

PUSH 1

PUSH 2

PUSH 3

PUSH 4

POP 0

POP 1

POP 2

POP 3

POP 4

END