

## **Sub: Microprocessors and Microcontrollers Lab**

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### **Lab Task 5**

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Q1:

ORG 0000H

START MOD Re, #10

MOJ DPTP, #STRING

AGAIN ICLPA

MOJCA A+ DPTR

MOJPIA

ACALL DELAY

ZNC DPTR

DJNZ RO, AGAIN

SJMP START

DELAY MOJ P1, #253

13: MOJ R2, #255

DUNZ

Le R3, LI

DJNE R2, L2

DJNZ R1, 13

RET

STRING DB 3FH, 06H, 5BH, 4FH, 66H, 60H, 70H, 07H, 7FH, 6FH

END

Program: 5.1

ORG 0000H

START: MOV R0, #10

MOV DPTR, #STRING

AGAIN: CLR A

MOVC A, @A+DPTR

MOV PI, A

ACALL DELAY

ZNC DPTR

DJNZ R0, AGAIN

SJMP START

DELAY: MOV R1, #255

L3: MOV R2, #255

DJNZ  
L2: ~~MOV~~ R3, L1

DJNZ R2, L2

DJNZ R1, L3

RET

STRING: DB 3FH, 06H, 5BH, 4FH, 66H, 6DH, 70H

07H, 7FH, 6FH

END

*Output verified*  
*Refining*  
*13/4/24*

**Q2: Write a program to display "SCOPE" on LCD from line 1 position 6**

**Code:**

```
ORG 0000H

MOV A,#38H

ACALL CMNWRT

ACALL DELAY

MOV A,#0EH

ACALL CMNWRT

ACALL DELAY

MOV A,#01H

ACALL CMNWRT

ACALL DELAY

MOV A,#06H

ACALL CMNWRT

ACALL DELAY

MOV A,#80H

ACALL CMNWRT

ACALL DELAY

MOV A,#'V'

ACALL DATWRT

ACALL DELAY

MOV A,#'I'

ACALL DATWRT

ACALL DELAY

MOV A,#'T'

ACALL DATWRT
```

ACALL DELAY

AGAIN: SJMP AGAIN

CMNWRT:

MOV P1,A

CLR P2.0

CLR P2.1

SETB P2.2

CLR P2.2

RET

DATWRT:

MOV P1,A

SETB P2.0

CLR P2.1

SETB P2.2

CLR P2.2

RET

DELAY: MOV R3,#0FFH

MOV R4,#0FFH

MOV R5,#55H

HERE: DJNZ R5,HERE

HERE1: DJNZ R4, HERE1

HERE2: DJNZ R3,HERE2

RET END

### Program 5.3

```
ORG 0000H
MOV A, #3BH
ACALL COMNVRT
ACALL DELAY
MOV A, #0EH
ACALL COMNVRT
ACALL DELAY
MOV A, #21H
ACALL COMNVRT
ACALL DELAY
MOV A, #06H
ACALL COMNVRT
ACALL DELAY
ORG 300H
MOV A, #86H
ACALL COMNVRT
MOV DPTR, #MYDATA

D1: CLR A
    MOV C, A, @A+DPTR
    ACALL DATAWRT
    ACALL DELAY
    INC DPTR
    SJMP D1

AGAIN: SJMP AGAIN

COMNVRT:
    MOV P1, A
    CLR P2.0
    CLR P2.1
    SETB P2.2
    ACALL DELAY
    CLR P2.2
    RET
```

DATAWRT;

```
MOV P1,A
SETB P2.0
CLR P2.1
SETB P2.2
ACALL DELAY
CLR P2.2
RET.
```

```
DELAY MOV R3, #250
HERE2: MOV R4, #250
HERE: DJNZ R3, HERE2
RET
```

```
ORG 300H
MYDATA: DB "SCOPE",0
END
```

All work is  
O/P verified  
R.D.  
13/4/24