(18 ECC 203J) Microcontroller, Microprocessor and Interface techniques.

Assignment 2

Name - Gokul Kartik Sai Vamshi

Roll no - RA2111004010272

Section - ECE-D2

A1) EPROM - $2 \times \{16K \times 8\} = 32K \times 8$

RAM - $2 \times \{16K \times 8\} = 32K \times 8$

$n = \log_2 N$

n = no. of addresses lines

N = no. of memory locations.

$n = \log_2 16384$

$n = 14$

A2) Address $A_0 - A_{13}$

A_0 - used to choose high / lower ram.

$A_1 - A_{13}$ - Address for the 8K memory.

Addressing mode :-

```
MOV A, 12H
MOV h, A
MOV 31h, A
MOV 52h, A
MOV 53h, A
MOV 5F, A.
```

(b) Registu indiuct addressing mode with a open loop.

```
MOV A, #12H
MOV R0, #50h
MOV @R0, A
INC R0;
MOV R0
MOV @R0
INCR0
MOV @R0
INCR0
MOV@R0
```

Register indirect addressing mode with loop.

```
MOV A, #12H
MOV R0, #50H
MOV R2, #05
A-GAIN:
MOV @R0, A
INC R0
DJNZ R2, A-GAIN.
```

A2)

```
ORG 0
MOV DPTR, #300H
MOV A, #0FFH
MOV P1, A
Back: MOV A, P1
MOVC A, @A+DPTR
MOV P2, A
SJMP Back
ORG 300H
END.
```

```
MOV A, #38H
ACALL CMND
MOV A, #0EH
ACALL CMND
MOV A, #01H
ACALL CMND
MOV A, #06H
ACALL CMND
MOV A, #82H
ACALL CMND
MOV A, #3CH
ACALL CMND
MOV A,#49D
ACALL DISP
MOV A,#54D
ACALL DISP
MOV A, #88D
ACALL DISP
MOV A, #50H
ACALL DISP
MOV A, #32D
ACALL DISP
MOV A, #76D
ACALL DISP.
```

```
MV A, #0C1H
ACALL CMND

MOV A, #84D
ACALL DISP
MOV A, #83D
ACALL DISP
MOV A, #06D
ACALL DISP
MOV A, #89D
ACALL DISP
HERE: SJMP HERE

CMND: MOV P1, A
CLR P3.5
CLR P3.4
SETB P3.3
CLR P3.3
ACALL DELAY
RET
CLR P3.3
CLR P3.4
RET
END.
```