(b) Explain working of 8259. [6]

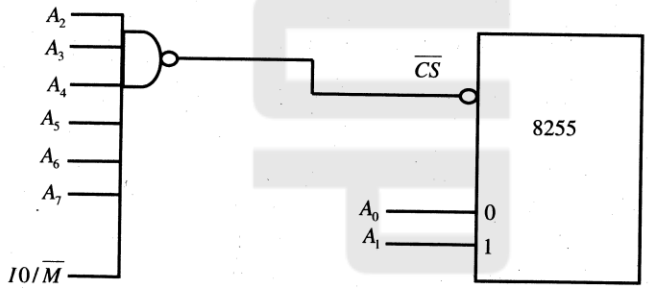
(c) Differentiate vectored and non vectored interrupts of 8085. [4]

UNIT-IV

Q.4 (a) Explain control word format of 8255 in IO mode. [8]

(b) Write a control word of 8255 in IO mode 0, for port A and port B is input and port C is in output port. [4]

(c) Find the address of port A, port B, port C and control register of 8255 for following interfacing. [4]



OR

Q.4 (a) Explain operating modes of 8254 with wave forms. [8]

(b) Explain 8279 with block diagram. [4]

(c) Differentiate memory mapped and IO mapped techniques. [4]

UNIT-V

Q.5 Write Short note on :-

(a) USART 8251 [10]

(b) Liquid crystal display [6]

OR

Q.5 Write short note on :-

(a) RS232 C and RS 422A [8]

(b) Centronics [4]

(b) IEEE 488 [4]

4E4160

Roll No. _____ Total No of Pages: 4

4E4160

B.Tech. IV-Sem (Main & Back) Exam; June-July 2016
Computer Science & Engineering
4CS1A Microprocessors and Interfaces
Common with CS, IT

Time: 3 Hours **Maximum Marks: 80**

Min. Passing Marks (Main & Back): 26

Min. Passing Marks (Old Back): 24

Instructions to Candidates:-

*Attempt any **five questions**, selecting **one question** from **each unit**. All Questions carry **equal** marks. Schematic diagrams must be shown wherever necessary. Any data you feel missing suitably be assumed and stated clearly.*

Units of quantities used/ calculated must be stated clearly.

Use of following supporting material is permitted during examination (Mentioned in form No.205).

*1.*_____ *2.*_____

UNIT-I

Q.1 Define following is 8085 Microprocessor:-

(a) Program counter [2]

(b) Stack pointer [2]

(c) General purpose programmable registers [2]

(d) Instruction register [2]

(e) HOLD & HLDA pin [2]

(f) Control & status pins [2]

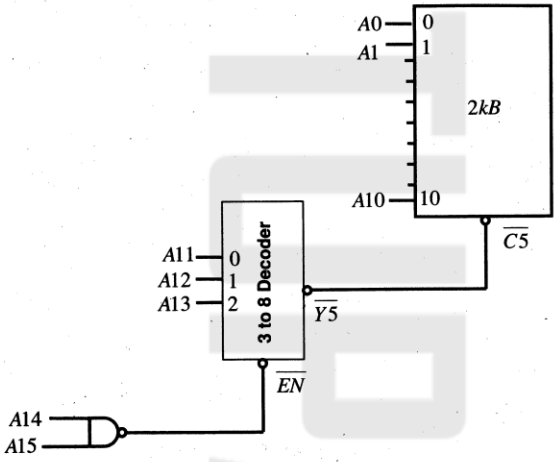
(g) Flags [2]

(h) PSW [2]

OR

Q.1 (a) Define multiplexed pins of 8085 Microprocessor. Explain with black diagram Demultiplexing of AD0-AD7 pins of 8085 using tri state gates. [8]

(b) Find memory map of the following 2KB Memory chip. [8]



UNIT-II

Q.2 (a) Write a short note on rotate instructions of 8085 Microprocessor. [6]

(b) Find the content of 'C' register after execution of the following assembly language program. [6]

```
        MVI A,  17H
Loop:   RLC
        JNC     Loop:
        MOVC,   A
        HLT
```

(c) Define direct and indirect addressing modes with appropriate examples. [4]

OR

Q.2 (a) Define instruction cycle, machine cycle and T-state. [4]

(b) Explain instruction cycle of an instruction MVI A, 05 H using Timing diagram. [6]

(c) Find content of register 'C' after execution of the following assembly language program. [6]

```
MVI A,  67H
MVI B,  24H
ADDB
DAA
MOV C, A
HLT
```

UNIT-III

Q.3 (a) Compute the time delay introduced by following routine: [6]

```
                        T – States
MVI A,  0AH     -       7
Loop:   NOP     -       4
        NOP
        MOV B, A -      4
        DCRA    -       4
        JNC Loop:  -    10/7
        RET     -       10
```

Assume : clock frequency of Microprocessor is 3MHZ.

(b) Write an assembly program to implement 16 bit counter. [6]

(c) Differentiate maskable & Nonmaskable interrupts of 8085. [4]

OR

Q.3 (a) Find the content of SP & PC: [6]

(i) after CALL instruction

(ii) after RET instruction, of the following program

Mem. Address	Instruction
2000H	LXI SP, 3995H
	LXI B, 20A5H
	LXI H, 3927H
	CALL 373A H
	-
	-
373A H	MOV A, B
	RET