

17443

14115

3 Hours / 100 Marks

Seat No.

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- Instructions :** (1) All Questions are *compulsory*.
(2) Illustrate your answers with neat sketches wherever necessary.
(3) Figures to the right indicate full marks.
(4) Assume suitable data, if necessary.
(5) Use of Non-Programmable Electronic Pocket Calculator is permissible.
(6) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

Marks

1. (A) Answer any SIX :

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- List the interrupt signals of 8085.
- Define Machine Cycle.
- Illustrate EI and DI instructions.
- Give the control word format for I/O mode of 8255.
- What is PPI ?
- Name the various flags bits available in 8085 microprocessor.
- What do you mean by timing diagram ?
- What is the necessity for interrupts controller ?

(B) Answer any TWO :

8

- Explain wait state condition. When it is required ?
- Draw the block diagram of 8255 and list its operative modes.
- Interface 8255 to 8085 in I/O mapped Memory/O. Write the address of 8255.



P.T.O.

- 2. Attempt any FOUR :** **16**
- (a) State any four features of 8085.
 - (b) Explain the following instructions (1) LHL (2) XTHL
 - (c) Write the assembly language program to add 8-bit numbers available in memory location from 2500 H to 2509 H
 - (d) Write what is a subroutine and write the advantages of subroutines.
 - (e) Explain the function of serial I/O lines of 8085.
 - (f) Compare features of 8155 & 8255.
- 3. Attempt any FOUR :** **16**
- (a) Write a note on general purpose and special purpose registers of 8085.
 - (b) List addressing modes of 8085. Explain with an example.
 - (c) Define OP code and operand. Define two byte instruction with one example.
 - (d) Draw the SIM instruction word and explain the function of all bits in it.
 - (e) State what is memory mapped I/O? State its features.
 - (f) Draw the neat labelled minimum system using 8085, 8155.
- 4. Attempt any FOUR :** **16**
- (a) Why is the data bus bidirectional? What is the function of ALU?
 - (b) Draw the timing diagram for MOV A, 32H.
 - (c) State the functions of instructions (1) SHLD (2) RET.
 - (d) Which control signals are necessary in the memory-mapped I/O? Explain.
 - (e) Draw the block diagram of 8255.
 - (f) Interface DAC to 8085 and write the program to generate a square wave using DAC.

5. Attempt any FOUR :**16**

- (a) Draw the architecture of 8085.
- (b) Write a program to transfer block of data from 1000 H to 4000 H. No. of blocks to be transfer is given at 2000 H.
- (c) Describe vectored interrupts of 8085.
- (d) Compare I/O mapped I/O and memory mapped I/O. (any 4 points)
- (e) Explain any one mode of 8255 in detail.
- (f) Write timer mode of 8155 and explain any one with timing diagram.

6. Attempt any FOUR :**16**

- (a) Explain DMA controlled data transfer technique.
 - (b) Write a program to find largest and smallest number from given block. No. of elements in block is given at 1200 H and block starts at 8000 H. Store largest number at 9000 H and smallest 9100 H.
 - (c) Write the delay subroutine using one 8 bit register only. Calculate the delay generated using same. Assume suitable count in register.
 - (d) How address and data are demultiplexed in 8085 ?
 - (e) Design a microprocessor system to interface $8K \times 8$ EPROM.
 - (f) Enlist any four features of 8355.
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