17443

11718

3 Hours / 100 Marks Seat No. | | | | | | | | |

Instructions *: (1)* ***All*** *questions are* ***compulsory****.*
(2) Answer ***each*** *next main question on a* ***new*** *page.*
(3) Illustrate your answers with neat sketches ***wherever*** *necessary.*
(4) Figures to the ***right*** *indicate* ***full*** *marks.*
(5) Assume suitable data, if ***necessary****.*
(6) Mobile Phone, Pager and any other Electronic Communication devices are ***not*** *permissible in Examination Hall.*

Marks

1. A) Attempt **any six**: **12**

a) Define 'Microprocessor' and 'Micro-computer'.
b) State the function of 'ALE' signal.
c) Define 'stack'.
d) List different types of programmable peripheral devices (IC- numbers).
e) Classify data transfer techniques.
f) State the function of 'HOLD' and 'HLDA' pins.
g) How many T-states are required for
i) MOV A, M ii) LDA 3500 H instructions ?
h) State the number of ports and size of ports available with 8155.

B) Attempt **any two**: **8**

a) Draw Timing diagram for 'MOV B, C' instruction.
b) Compare I/O mapped I/O and memory mapped I/O techniques (any four points).
c) State the features of 8355 IC (any four).

2. Attempt **any four**: **16**

a) How $\overline{MR}$, $\overline{MW}$, $\overline{IOR}$ and $\overline{IOW}$ control signals are generated ? Explain with suitable diagram.

b) Explain different addressing modes of 8085 μp.

c) List the interrupts available with 8085 and explain hardware interrupts.

d) Explain how data is transferred and received using 'SID' and 'SOD' lines.

e) Draw the block diagram of 8255 IC.

f) Explain DMA controlled data transfer technique.

P.T.O.

Marks

3. Attempt **any four** : **16**

a) Draw internal architecture of 8085 μp .

b) Draw and explain different instruction formats available with 8085 μp .

c) Explain concept of subroutine.

d) State the equation related to no. of address lines and size of memory and how many address lines are required for 1MB memory ?

e) State features of IC-8155 (any four).

f) Explain different types of data transfer techniques.

4. Attempt **any four** : **16**

a) Explain how address bus and data bus are de-multiplexed.

b) List and explain different Branch instructions.

c) Draw and explain 'RIM' and 'SIM' instruction format.

d) Draw interfacing of 2K × 8 ROM with 8085 μp .

e) What are the different modes of 8255 and draw control word formats of it ?

f) Write an ALP to generate squarewave of 1KHz frequency.

5. Attempt **any four** : **16**

a) State the features of 8085 μp .

b) Write an ALP, to add three 8 bit number stored in memory location 8000 H, 8001 H and 8002 H and store result in A000 H and A001 H.

c) Explain software interrupt available with 8085 μp.

d) Explain address decoding techniques.

e) Draw internal block diagram of 8155 IC.

f) Write any four instructions to clear (00H) content of accumulator.

6. Attempt **any four** : **16**

a) Explain different register's available with 8085 μp .

b) Write an ALP, to find 2's complement of given 8 bit number.

c) Draw flow chart and write ALP to find smallest number from given two numbers.

d) How 4K × 8 RAM is interfaced with 8085 μp, show mapping also ?

e) State different features of IC- 8255.

f) Draw interfacing diagram of ADC 0800 with 8085 μp using 8255.
