



17443

11819

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) *Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.*

Marks

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

12

- a) Classify the buses of 8085.
- b) Define machine cycle.
- c) Draw Demultiplexing diagram of ADO-AD, bus in 8085.
- d) Which type of memory available in 8155 ? State its capacity.
- e) State the function of stack.
- f) How the port C is divided in Group A and Group B of 8255 ?
- g) Classify data transfer technique.
- h) Find error in following instructions and rewrite the instruction.
 - i) X CHG A
 - ii) STA FFH.

B) Attempt **any two** of the following :

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- a) Interface 8255 to 8085 in I/O mapped I/O. Write the address of 8255.
- b) Draw and explain the block diagram of 8155.
- c) Draw the interfacing of stepper motor with 8085 through 8255. Write assembly language program to rotate stepper motor clockwise with 4-step sequence.

2. Attempt **any four** of the following :

16

- a) List the different control signals in 8085 and draw the suitable diagram to generate control signals.
- b) Write assembly language program to add two 8 bit number.
- c) Draw timing diagram of STA 7000 H instruction.
- d) Differentiate between maskable and non-maskable interrupts (any 4 pts)
- e) Explain the function of serial I/O control of 8085.
- f) Describe the BSR mode of 8255.

P.T.O.



3. Attempt **any four** of the following : 16
- a) Draw flag register of 8085 and explain function of each bit.
 - b) Draw flowchart and write a program for subtraction of two 16 bit no's stored in internal memory.
 - c) Draw timing diagram of read machine cycle.
 - d) Draw the format of SIM instruction and explain the function of each bit.
 - e) Compare I/O mapped I/O and memory mapped I/O (any 8 pts).
 - f) Draw block diagram of 8355.
4. Attempt **any four** of the following : 16
- a) Write salient features of 8085 (any eight).
 - b) State the function of LDA address and SHLD address instruction.
 - c) Explain any four arithmetic instruction by giving an examples of each.
 - d) Write assembly language program to generate square wave of SOD line.
 - e) Give any four features of 8355.
 - f) Draw and explain the control word format of 8255.
5. Attempt **any four** of the following : 16
- a) Draw block diagram of microcomputer and explain.
 - b) Write the priority of H/W interrupt of 8085 along with their vector address.
 - c) Describe the function of EI and DI.
 - d) Interface 8K byte of ROM by using 4K byte of memory chips.
 - e) Write the timer modes of 8155 and explain any one with timing diagram.
 - f) Draw interfacing of ADC to 8085 through 8255.
6. Attempt **any four** of the following : 16
- a) Draw the architecture of 8085 microprocessor.
 - b) Explain the function of instruction register and instruction decoder of 8085.
 - c) What is subroutine ? State any two advantages of sub-routine.
 - d) LED is connected to SOD line of 8085 write the instruction to 'ON' the LED.
 - e) Draw block diagram of 8255.
 - f) Draw the interfacing diagram of 7 segment display to 8085 through 8255.
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