17443

21314

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

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 of the following:** **12**

i) Define:

1) Instruction cycle

2) T-state

ii) What are stacks ? List their use (any two).

iii) List one example each of one byte, two byte and three byte type of Instructions.

iv) Classify the data transfer techniques.

v) List any two features of 8255.

vi) What is a subroutine ? List two related instruction while referring subroutine in main program.

vii) State the memory addressing capacity of 8085.

viii) Compare PUSH and POP instruction of 8085 microprocessor (any two)

Marks

b) **Attempt any <u>TWO</u> of the following:** **08**

i) Compare between I/o mapped I/o and memory mapped I/o (any four points)

ii) Draw the interrupts structure of 8085. Explain the vectored interrupts.

iii) State any four features of 8085.

2. Attempt any <u>FOUR</u> of the following: **16**

a) Draw the block diagram of 8255.

b) What are RST instructions ? Explain the following instructions.

i) EI

ii) DI

iii) RIM

c) Explain BSR mode of operation of 8255 in detail by giving a suitable example.

d) Write an assembly language program for block of transfer of data. (block - 4 Nos 8 bits).

e) Draw the interfacing diagram of 8255 and seven segment display. Write assembly language program to display 0 to 9 digits.

f) Draw the SIM instruction word and explain the function of all bits in it.

Marks

3. Attempt any <u>FOUR</u> of the following: **16**

a) Draw the timing diagram for instruction MVIA, 45H.

b) Write the functions of following pins of 8085.

i) HOLD

ii) ALE

iii) READY

iv) RESET

c) Interface 8KB RAM to 8085. State the memory map.

d) How demultiplexing of address and data bus is achieved in 8085.

e) Draw the interfacing diagram DAC 0800 with 8085μp using 8255 and write ALP to generated square wave.

f) Draw block diagram of IC 8155.

4. Attempt any <u>FOUR</u> of the following: **16**

a) LED is connected to SOD line of 8085. Write the instruction to 'ON' the LED.

b) Why microprocessor is called a programmable device ? Explain.

c) Draw the instruction format of instruction. Describe with one example.

d) Draw the organisation of microprocessor based system and show the bus structure.

e) State any four features of 8155.

f) Write an assembly language program to add 8-bit numbers available in memory location from 2500H to 2509H.

Marks

5. Attempt any FOUR of the following: **16**

a) Draw interfacing of 32KB EPROM and 16KB RAM to 8085. State the memory map.

b) Draw the block diagram of 8355.

c) What is meant by memory interfacing. State signals of microprocessor used for

i) RAM

ii) ROM memory interfacing.

d) Write the any four advantages of subroutines.

e) How the basic control signals are generated in 8085 ?

f) Write an assembly language program to arrange the data available in memory location from 2000H to 2009H in descending order.

6. Attempt any FOUR of the following: **16**

a) Write the timer modes of 8155 and Explain any one with the timing diagram.

b) Draw a diagram to interface stepper motor to 8085 microprocessor using 8255 PPI, write an 8085 assembly language program to control the stepper motor.

c) List the addressing modes of 8085 microprocessor. Give example of one instruction for each addressing mode and explain it.

d) Draw the interfacing of 8-bit ADC 0808 with microprocessor 8085 write a program to read the input from channel and store at address.

e) Explain how information is exchanged between program counter and stack pointer. What are the contents of stack pointer register when a subroutine is called?

f) Write the execution flow in steps for instruction CC 2200H.

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