

Printed Pages – 4

Roll No. :

328454(28)

B. E. (Fourth Semester) Examination 2020

APR-MAY 2022

(New Scheme)

(Et & T Branch)

MICROPROCESSOR & INTERFACES

Time Allowed : Three hours

Maximum Marks : 80

Minimum Pass Marks : 28

Note : Part (a) is compulsory. Attempt any two parts from (b), (c) and (d) of all questions.

Unit - I

1. (a) Define program counter. 2
- (b) Draw the pin diagram of 8085 microprocessor and explain the function of following pins :

- (i) ALE
 - (ii) READY
 - (iii) INTR
 - (iv) HOLD
 - (v) S_0, S_1 7
- (c) Explain how decoder is useful to generate various control signals of 8085 microprocessor. 7
- (d) Draw and explain the timing diagram for MVI A, 32H. 7

Unit - II

2. (a) Define the terms opcode and operand. 2
- (b) What are the addressing mode used in 8085 micro-processor? Explain them with suitable example. 7
- (c) Explain the function of following instructions with example :
- (i) MVI M, data_g
 - (ii) LDAX r_p.
 - (iii) AC1 data_g
 - (iv) DAD r_p
 - (v) ORI data

- (vi) RAR
 - (vii) RET 7
- (d) Write an assembly language program to find the largest number in a data array of 5 numbers placed from memory location 2501H to 2505H. The count is to be placed in location 2500H and result is to be stored in the location 2450H. 7

Unit - III

3. (a) Define "Absolute Decoding". 2
- (b) Differentiate between I/O mapped I/O and memory mapped I/O scheme. 7
- (c) Explain the microprocessor controled data transfer and peripheral controlled data transfer schemes. 7
- (d) Interface the following memory chips with 8085 microprocessor : 7
- (i) ROM (4K×8) : 1 No : Starting Address 0000H
 - (ii) EPROM (4K×4) : 2 No Starting Address 1000H

Unit - IV

4. (a) What is the SIM and RIM? 2

- (b) What do you mean by pending interrupts? Explain with the help and suitable instructions. 7
- (c) What is Interrupt? How are interrupts used in handshake modes? Explain. 7
- (d) Explain all the Restart instructions. 7

Unit - V

- 5. (a) Define DMA and NOLD operations. 2
- (b) Explain various mode of 8253 timers. 7
- (c) Why is 8155 called as multipurpose programmable device? Discuss in detail. 7
- (d) Draw architecture of 8251 USART and explain its components. 7