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Roll No. :

327455(28)

B. E. (Fourth Semester) Examination, 2020

APR-MAY 2022

(New Scheme)

E & T

(Electronic and Telecommunication Engg. 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).

Unit - I

1. (a) What is the significance of ALE pin in 8085 microprocessor? 2
- (b) Explain the demultiplexing of Address/Data Bus using suitable diagram. 7

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- (c) Draw the timing diagram for the instruction MOV, A, M. 7
- (d) Draw the functional architecture diagram of 8085 microprocessor. Briefly explain the function of each block. 7

Unit - II

2. (a) Why LDAX H instruction is not available in the instruction set? 2
- (b) Write ALP for addition of two 8-bit numbers. The sum should be 8-bit. 7
- (c) What are the different addressing modes? Give one examples of each. 7
- (d) Explain the following instructions : 7
- (i) LDA adder
 - (ii) LDAX, R_P
 - (iii) MOV R, M
 - (iv) LXI R_P, 16 bit data

Unit - III

3. (a) Define partial decoding. 2

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- (b) Discuss various modes to data transfer used in microprocessor. 7
- (c) The following memory devices are to be interfaced to 8085. Draw the necessary hardware for this interfacing : 7
- (i) 2k × 8 EPROM
 - (ii) 2k × 8 RAM

- (d) Write the difference between memory mapped-I/O and I/O mapped I/O. 7

Unit - IV

4. (a) Enlist all interrupts and mention its call location. 2
- (b) What is RST instruction? Explain with diagram the hardware implementation of RST 5. 7
- (c) With the help of necessary format, explain the significance of RIM and SIM instruction. 7
- (d) Assuming the microprocessor is completing RST 7.5 interrupt request. Check to see if RST 6.5 is pending. If it is pending, enable RST 6.5 without affecting any other interrupt. Otherwise return to the main program. 7

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Unit - V

5. (a) Write the CWR format for 8255 A. 2
- (b) Write the short note on USART. 7
- (c) Explain the various modes of 8253/8254. 7
- (d) Design a square wave generator with a pulse width of 100 μ sec by using the 8155 timer. Set up the timer in mode 1 if the clock frequency is 3 MHz. The port address are, control word = 20 H, port A = 21 H, port B = 22 H, port C = 23 H, timer LSB = 24 H and timer MSB = 25 H. 7