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B. E. (Comp. Engg.) Vth Semester Examination  
 MICROPROCESSOR AND APPLICATIONS Paper-EE-  
 303- B

Time allowed: 3 hours

Maximum Marks: 100

Note: Attempt any **five** questions.

1. (a) Name one 4 bit, 16 bit, 32 bit and 64 bit *μ*P.

(b) Draw the block diagram of 8085 *μ*P. Explain the function of each component.

(c) Why do we multiply lower 8 bit address with data bus.

4 + 12 + 4

2. (a) Draw machine cycle timing diagram for IN Port no. instruction.

(b) What are the addressing modes and machine cycle used in the following instructions?

MVIM, data

PUSH PSW

DCRr

INXrp

10 + 10

3. Write assembly language program using 8085 *μ*P for

(a) providing 1 ms time delay at J MHz clock using software loops.

(b) Arranging a data array in ascending order.

10 + 10

354--P2-(Q--8) (in)

PT.O.

4. (a) What is interrupt? Explain interrupt structure of 8085  $\sim$ P.
- (b) Write an interrupt service routine RST<sub>5.5</sub> which moves a 20 bytes block from one memory to another. 12 + 8
5. (a) Explain the architecture of 8255 PPI.
- (b) How do you set control register for different modes? (c) Explain control word for setting  $PC_2 = 1$  and  $PC_2 = 0$ . 8+6+6
7. (a) Explain serial data transfer.
- (b) Explain 8251 USART. How do you transfer data serially using it in asynchronous mode? ; + 15
7. Describe a microprocessor based scheme to measure and control temperature of  $\sim$ system. Write necessary flow chart and give hardware of the scheme. 20
8. Write short note on any *three* : 2  
0
- (a) Comparison of different types of memory used
- (b) 8259 block diagram
- (c) DMA data transfer scheme,
- (c) Memory mapped and I/O mapped I/O schemes.