

2124

B.E. (Electronics and Communication Engineering)  
Third Semester  
EC-303: Microprocessor and Applications

Time allowed: 3 Hours

Max. Marks: 50

**NOTE:** Attempt five questions in all, including Question No. 1 which is compulsory and selecting two questions from each Unit. Draw the diagrams wherever required.

x-x-x

I. Attempt the following:-

- a) What are the differences between maximum mode and minimum mode?
- b) Calculate the physical address, when segment address is 1085H and effective address is 4537H.
- c) What is assembly level programming?
- d) What are the different types of instructions in 8086 microprocessor?
- e) Explain PUSH and POP instruction.
- f) How Time Delay is generated in 8085?
- g) What is a subroutine?
- h) Differentiate mask able and non masakable interrupts
- i) What is I/O read, I/O Write?
- j) What is PC and STACK? (10x1)

**UNIT - I**

- II. a) What is meant by memory mapping, explain with the help of an example?  
b) What are the advantages of segmented memory? (6+4)
- III. a) How the 8085 processor differentiates a memory access (read/write) and I/O access (read/write)?  
b) Explain instruction cycle with the help of timing diagram. (5+5)
- IV. a) Explain the register organization of 8085.  
b) Explain the pin diagram of 8085. (5+5)

**UNIT - II**

- V. What is interrupt service routine? Write a program to add a data byte located at offset 0500H in 2000H segment to another data byte available at 0600H in the same segment and store the result at 0700H in the same segment. (10)

P.T.O.

(2)

- VI. What is DMA? What will happen when a DMA request is made, while the CPU is performing a memory or I/O cycles? (10)
- VII. a) Explain the functions of (i) HLDA (ii) RQ/GTO (iii) DEN (iv) ALE  
b) Discuss the Architecture of 8086 microprocessor with the help of suitable diagram.  
Explain MMU memory management Unit. (10)

x-x-x