**Exam.Code:0915**
**Sub. Code: 6394**

**2074**

**B. E. (Computer Science and Engineering)**

**Third Semester**

**CS-304: Microprocessors**

**Time allowed: 3 Hours** **Max. Marks: 50**

***NOTE:*** ***Attempt <u>five</u> questions in all, including Question No. I which is compulsory and selecting two questions from each Section.***

*x-x-x*

**Q1. Attempt the following:-**

a) Compare IO mapped IO with memory mapped IO.
b) Write control word of 8255 for BSR mode of 8255.
c) Calculate the count to be loaded in B register for the given instruction to obtain 100μs loop delay, if the system clock frequency is 3Mhz.

```
      MVI B, Count
LOOP: NOP
      NOP
      DCR B
      JNZ LOOP
```

d) Briefly explain SPHL and XTHL instructions of 8085.
e) Discuss PUSH and POP instructions.

(5x2)

**<u>Section-A</u>**

Q2.

a) Describe the architecture of 8085 microprocessor. (5)
b) Draw and explain the timing diagram of MVI A, 25 H instruction. (5)

Q3.

a) Explain various instructions used to perform logical operations of 8085 microprocessor with suitable examples. (5)
b) Show memory interfacing of 1K ROM chip and 2K RAM chip if memory starting address for RAM is 0000H and 2000H for RAM Chip. (5)

Q4.

a) Write a program to transfer 20 bytes of data stored at address starting from XX01H to new address starting from YY01H. (5)
b) How do we classify the instructions of 8085, based on (i) number of bytes, (ii) addressing modes? Explain with examples. (5)

P.T.O.

## Section-B

Q5.

a) Discuss interrupt system of 8085 microprocessor. (5)
b) What are different operating modes of 8255? Describe Explain working of 8255 PPI in mode1 as input mode. (5)

Q6.

a) Write a program for displaying binary up counter. Counter should count from 00-FFH with an 0.5 seconds delay in between counter display. (5)
b) Explain working of 8257 DMA controller. (5)

Q7.

a) Discuss interfacing of Digital to Analog converter with 8085. (5)
b) Write a short note on 8254 programmable interval timer. (5)

*x-x-x*