MANIPAL UNIVERSITY JAIPUR
SCHOOL OF COMPUTING AND IT
IV Semester B.Tech - First Sessional Examination- 2017-18
Branch: CSE / IT /CCE
CS1403- Microprocessor and Microcontroller (MPMC)
(CLOSE BOOK)

Duration: 1 hour **Max. Marks: 15**

Instructions:

- All questions are compulsory.
- Missing data if any may be assumed suitably.

1. a) The contents of different registers are given below. [3]

   Offset = 1A00H

   AX= 1000H, BX=2090H, SI= 3000H, DI= 4A00H, BP= 5000H,

   SP= 6B00H, CS= 0100H, DS= 1300H, SS= 2000H, IP= 7200H.

   Describe the execution of each instruction mentioned below by mentioning the name of addressing mode and by calculating physical address.

   (i) MOV AX, [1A00H]

   (ii) MOV AX, [BX] [SI] 1A00H

   (iii)MOV AX, 1A00H [BX]

   b) How pipelining is implemented in 8086 and how it affects the performance of processor [2]

2. a) Write an assembly program to invert the. 1,3,5,7 LSB's of 16-bit data stored at [4500h]. [2.5]

   b) Write an assembly program to add two 8-bit data values stored at 12456h and 12459h and store the result at top of stack. [2.5]

3. a) Write an Assembly Language Program to solve the equation. [3]

   0.75 P + 1.25 Q + R/128. Store the result in AX

   Here, P Q and R is 16 bit unsigned number and result is also of 16 bits.

   b) Write an Assembly Language Program to perform the division: [2]

   (-9900h) / (+2600h).