MCA 2nd Semester Examination, 2013

MICROPROCESSOR LAB.

PAPER – CS-MCA - 208

Full Marks : 100

Time : 3 hours

The figures in the right-hand margin indicate marks

Candidates are required to give their answers in their own words as far as practicable

Illustrate the answers wherever necessary

GROUP – A

Answer any *one* question :   30 × 1

1. A set of eight data bytes are stored in memory locations starting from XX70H. Write a program to subtract two bytes at a time and store the result in a sequential order in memory locations starting from XX70H.

    Data (H) : 38, F9, A7, 56, 98, B2, F2, 67

2. Write a program to find out the largest from an array of ten numbers.

3. Add the numbers 86H and 81H. If the sum is greater than AAH, store FFH in memory location XX50H, otherwise store the sum to the memory.

4. Write a program to find the reverse of a 8-bit number.

5. Write a program to compute the average of six numbers :

   Data (H) : 14, 18, 1A, 24, 7E, D4.

6. Write a program to convert a packed BCD number to unpacked BCD and store result in XX70H and XX71H.

   Data (H) : 83.

7. Write a program to subtract two 16-bit number.

   Data (H) : 9824 − 3968

8. Write a program for shifting a 16-bit number left by 2-bits. The number is stored in memory

locations 8401H and 8402H. The result is to be stored in 8501H and 8502H.

Data (H) : B23C.

9. Write a program to perform 03H*04H*05H using subroutine.

GROUP – B

Answer any *one* question :   30 × 1

1. A set of eight readings in memory starting at location XX50H. Write a program to check whether a byte 40H exists in the set. If it does, stop checking and display its memory location, otherwise output FFH.

   Data(H) : 48, 32, F2, 38, 37, 40, 82, 84

2. Write a program to add two 16 bit numbers. The result may be of 16 bit or more.

3. Write a program to find the square of 0 to 9 from look-up table.

4. Write a program for decimal addition of two 8 bit numbers.

5. Write a program to sort a list of five numbers in descending order.

6. Write a program to transfer a block of eight data in reverse order.

7. Write a program to interface 7 segment display with 8085 using 8255 and display 'COLLÊGE'.

8. Design a traffic control in which the red signal glow for 15 sec, yellow for 5 sec and green for 10 sec.

9. Write a program to

   (a) find the 1's complement of a 16 bit number

   (b) find the 2's complement of a 16 bit number.

   ## Marks Distribution
   1. Problem Description — 10 %
   2. Program Listing — 40 %
   3. Result and Discussion — 30 %
   4. Viva — 20 %