COMPUTER SCIENCE AND ENGINEERING DEPARTMENT

UCS617: Microprocessor based Systems Design

LAB ASSIGNMENT

8085 Microprocessor

1. Introduction of 8085-microprocessor kit and steps for execution on the kit.
2. Familiarity with 8085-microprocessor kit.
   i) Write a program to store 8-bit data into one register and then copy that to all registers.
   ii) Write a program for addition of two 8-bit numbers.
   iii) Write a program to add 8-bit numbers using direct and indirect addressing mode.
   iv) Write a program to add 16-bit numbers using direct and indirect addressing mode.
   v) Write a program to 8-bit numbers using carry. (using JNC instruction).
   vi) Write a program to find 1's complement and 2's complement of 8-bit number.
3. Write a program for the sum of series of numbers.
4. Write a program for data transfer from memory block B1 to memory block B2.
5. Write a program for multiply two 8-bit numbers.
6. Write a program to add ten 8-bit numbers. Assume the numbers are stored in 8500-8509. Store the result in 850A and 850B memory address.
7. Write a program to find the negative numbers in a block of data.
8. Write a program to count the number of one's in a number.
9. Write a program to arrange numbers in Ascending order.
10. Calculate the sum of series of even numbers.
11. Write an assembly language program to verify how many bytes are present in a given set, which resembles 10101101 in 8085.
12. Write an assembly language program to find the numbers of even parity in ten consecutive memory locations in 8085.
13. Write an assembly language program to convert a BCD number into its equivalent binary in 8085.
14. Write an assembly language program for exchange the contents of memory location.
15. Write a program to find the largest number in an array of 10 elements.

8086 Microprocessor

16. Write an assembly language program to add two 16-bit numbers in 8086.
17. Write an assembly language program to subtract two 16-bit numbers in 8086.
18. Write an assembly language program to multiply two 16-bit numbers in 8086.
19. Write an assembly language program to divide two 16-bit numbers in 8086.
20. Write an assembly language program to demonstrate AAA, AAS, AAM, AAD, DAA and DAS in 8086.
21. Write an assembly language program to find out the count of positive numbers and negative numbers from a series of signed numbers in 8086.
22. Write an assembly language program to convert to find out the largest number from a given unordered array of 8-bit numbers, stored in the locations starting from a known address in 8086.
23. Write an assembly language program to convert to find out the largest number from a given unordered array of 16-bit numbers, stored in the locations starting from a known address in 8086.
24. Write an assembly language program to print Fibonacci series in 8086.
25. Write an assembly language program to perform the division 15/6 using the ASCII codes. Store the ASCII codes of the result in register DX.

Interfacing using 8086-Microprocessor Kit

26. Interfacing ET-8255 study card with ET-8086 microprocessor hardware kit.
27. Interfacing ET-8253 study card with ET-8086 microprocessor hardware kit.
28. Interfacing ET-8279 study card with ET-8086 microprocessor hardware kit.
29. Interfacing ET-8251 study card with ET-8086 microprocessor hardware kit.
30. Interfacing ET-8259 study card with ET-8086 microprocessor hardware kit.