

2024

COMPUTER SCIENCE — HONOURS — PRACTICAL

Paper : CC-10P

(Microprocessor and Its Application)

Full Marks : 30

The figures in the margin indicate full marks.

Distribution of Marks

| | |
|------------------------------------|------|
| Experiment | : 20 |
| Theory/Algorithm/Flowchart | : 05 |
| Assembly Language Program for 8085 | : 10 |
| Output/Result | : 03 |
| Discussion | : 02 |
| Assignment/Laboratory Notebook | : 05 |
| Viva voce | : 05 |

SET - I

Answer *any one* question.

1. Write an Assembly Language Program for the 8085 to add ten decimal numbers stored in consecutive memory locations and save the result in appropriate memory locations. 20
2. Write an Assembly Language Program for 8085 to find the AP series, where the number of terms (> 5), common difference and initial term is provided. Store all the values in suitable consecutive memory locations. 20
3. Write an Assembly Language Program for 8085 to find frequency of a number from an array of twenty numbers (where the repetition of the selected number will be greater than 4 and less than 10). 20

(2)

B(4th Sm.)-Computer Sc.-II/Pr./CC-10P/CBCS/Set-I

4. Write an Assembly Language Program for 8085 to find the second largest byte from an array of fifteen unsigned 8-bit numbers, stored in consecutive memory locations. 20

 5. Write an Assembly Language Program for 8085 to sort twenty 8-bit numbers in descending order using bubble sorting technique. 20

 6. Write an Assembly Language Program for 8085 to find the Fibonacci series up to ten terms and store it in the suitable consecutive memory locations. 20

 7. Write an Assembly Language Program for 8085 to separate the positive and negative numbers from an array of 20 numbers and store them in two separate memory locations. 20

 8. Write an Assembly Language Program for 8085 to determine if a byte is a palindrome. (Take at least five sets of data) 20

 9. Write an Assembly Language Program for 8085 to replace all even positioned numbers using FFH in an array containing twenty 8-bit numbers and add these even positioned numbers and store the result in a suitable memory locations. 20

 10. Write an Assembly Language Program for 8085 to multiply an unsigned 16-bit number with an unsigned 8-bit number. Store the results in suitable memory locations. 20
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SET - II

Answer *any one* question.

1. Write an Assembly Language Program for 8085 to find out the value of Boolean operation $Z = AB + C$, where A, B and C are three 8-bit numbers. Store the result in a suitable memory location. 20
2. Write an Assembly Language Program for 8085 to separate all odd numbers present in an array of twenty 8-bit data stored in consecutive memory locations. Store the odd numbers in separate memory locations. 20
3. Write an Assembly Language Program for 8085 to multiply two unsigned 8-bit numbers using repetitive addition method. Store the result in suitable memory location. 20

(2)

B(4th Sm.)-Computer Sc.-H/Pr./CC-10P/CBCS/Set-II

4. Write an Assembly Language Program for 8085 to store twenty bytes of data in reverse order in suitable consecutive memory locations. 20

 5. Write an Assembly Language Program for 8085 to find the square roots of ten numbers in perfect squares form. Store the result in particular memory locations. 20

 6. Write an Assembly Language Program for 8085 to find the largest and smallest 8-bit number from an array of twenty 8-bit numbers taken at random stored in consecutive memory locations. 20

 7. Write a program in 8085 Assembly Language to sort numbers in ascending order using bubble sorting technique. 20

 8. Write an Assembly Language Program for 8085 to find the square of an unsigned 8-bit number. 20

 9. Write an Assembly Language Program for 8085 to perform the addition of array of ten decimal numbers and express the result in decimal and store it in suitable memory location. 20

 10. Write an Assembly Language Program for 8085 to divide an unsigned 8-bit number using another unsigned 8-bit number and store the quotient and the remainder in suitable memory location. 20
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SET - III

Answer *any one* question.

1. Write an Assembly Language Program for 8085 to subtract two 8-bit numbers using 2's complement method. 20
2. Write an Assembly Language Program for 8085 to count the number of 0's and 1's of an 8-bit number and store the count in suitable memory location. 20
3. Write an Assembly Language Program for 8085 to multiply two unsigned 8-bit numbers using repetitive addition, and subtract 12H from the result and store it in suitable memory location. 20

(2)

B(4th Sm.)-Computer Sc.-H/Pr./CC-10P/CBCS/Set-III

4. Write an Assembly Language Program for 8085 to find the third largest positive 8-bit number from an array of ten 8-bit numbers stored in consecutive memory location. 20

 5. Write an Assembly Language Program for 8085 to find the Fibonacci series up to 10 terms and store it in the suitable consecutive memory locations. 20

 6. Write an Assembly Language Program for 8085 to find the AP series, where the number of terms, common difference and initial term is given. Store all the values in BCD form in the suitable consecutive memory locations. 20

 7. Write a microprocessor 8085 Assembly Language Program to determine the smallest 8-bit number from an array containing twenty 8-bit numbers. 20

 8. Write an Assembly Language Program to find the LCM of two 8-bit numbers. 20

 9. Write a microprocessor 8085 Assembly Language Program that segregates the odd and even 8-bit numbers from an array of twenty elements and stores the results in separate memory locations. 20

 10. Write an 8085 Assembly Language Program that replaces all odd-positioned numbers with 00H in an array containing sixteen 8-bit numbers. Additionally, compute the sum of the even-positioned numbers and store the result in a suitable memory location. 20
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SET - IV

Answer *any one* question.

1. Write an Assembly Language Program for 8085 to add two 16-bit numbers and subtract 0010H from the result and store result in suitable memory location. 20
2. Write an Assembly Language Program for 8085 microprocessor to calculate the square root of an 8-bit number. If the number is not a perfect square, store the closest value in an appropriate memory location as the result. 20
3. Write an Assembly Language Program for 8085 microprocessor to divide an 8-bit number by another 8-bit number using the repetitive subtraction method. 20

(2)

B(4th Sm.)-Computer Sc.-II/Pr./CC-10P/CBCS/Set-IV

4. Write an Assembly Language Program for 8085 to add N byte numbers and store the result in suitable memory locations where N can be any number between 2 to 5. 20

 5. Write an Assembly Language Program for 8085 to store the numbers as shown here 1, 3, 5, 7, 9, 2, 4, 6, 8 in the suitable consecutive memory locations and compute the sum of all the numbers and store it in suitable memory location. 20

 6. Write an Assembly Language Program to arrange 20 decimal numbers in ascending order. 20

 7. Write a microprocessor 8085 Assembly Language Program to determine the second smallest 8-bit number from an array containing 20 (twenty) elements. 20

 8. Write an Assembly Language Program for 8085 to reverse an 8-bit number and store the result in a suitable location. 20

 9. Write an Assembly Language Program for 8085 to copy a block of twenty 8-bit numbers from one memory location to another. 20

 10. Write an 8085 Assembly Language Program that replaces all even-positioned numbers with FFH in an array containing sixteen 8-bit numbers. Additionally, compute the sum of the odd-positioned numbers and store the result in a suitable memory locations. 20
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