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SET - 1

BACHELOR IN COMPUTER APPLICATIONS (BCA)
(Revised)
Term-End Practical Examination

04035

December, 2012

BCSL-022 : ASSEMBLY LANGUAGE PROGRAMMING LAB

Time allowed : 1 hour *Maximum Marks : 50*

Note : *(i) There are **two compulsory** questions in this paper of **20** marks each. Rest **10** marks are for **viva-voce**.*

(ii) Use any assembler or emulator to run assembly programs.

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1. Write and run a program using 8086 assembly language that converts an ASCII digit stored in memory location to equivalent binary in AL register. For example, if memory has the ASCII digit '5' it should be in AL register as 00000101. **20**

2. Write a program using 8086 assembly language that counts the length of a string stored in consecutive memory location $ should be assumed as string termination character. **20**

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SET - 2

BACHELOR IN COMPUTER APPLICATIONS (BCA)
(Revised)
Term-End Practical Examination

02725

December, 2012

BCSL-022 : ASSEMBLY LANGUAGE PROGRAMMING LAB

Time allowed : 1 hour *Maximum Marks : 50*

Note : *(i) There are **two compulsory** questions in this paper of **20** marks each. Rest **10** marks are for **viva-voce**.*

(ii) Use any assembler or emulator to run the programs.

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1. Write and run a program using 8086 assembly language that interchanges the values. Stored in two different memory locations. **20**

2. Write and run a program using 8086 assembly language that finds the total of marks of 5 students stored in five consecutive memory locations. **20**

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SET - 3

BACHELOR IN COMPUTER APPLICATIONS (BCA)
(Revised)
Term-End Practical Examination 01975
December, 2012
BCSL-022 : ASSEMBLY LANGUAGE PROGRAMMING LAB

Time allowed : 1 hour *Maximum Marks : 50*

Note : *(i) There are **two compulsory** questions in this paper of **20** marks each. Rest **10** marks are for **viva-voce**.*
(ii) Use any assembler or emulator to run your programs.

1. Write and run a program using 8086 assembly language to find the smaller of two values stored in two different memory locations. **20**

2. Write and run a program using 8086 assembly language to multiply three numbers. The numbers may be assumed to be in three consecutive memory locations. The result should be stored in a register. All the numbers should be less than 100. **20**

No. of Printed Page : 1

SET - 4

BACHELOR IN COMPUTER APPLICATIONS (BCA)
(Revised)
Term-End Practical Examination

01065

December, 2012

BCSL-022 : ASSEMBLY LANGUAGE PROGRAMMING LAB

Time allowed : 1 hour *Maximum Marks : 50*

Note : *(i) There are **two compulsory** questions in this paper of **20** marks each. Rest **10** marks are for **viva-voce**.*
(ii) Use any assembler or emulator to run your programs.

1. Write and run a program using 8086 assembly language that calculates the tax due for a person. You may assume that the annual salary of the person is stored in a memory location. You may also assume a flat 30% tax rate. **20**

2. Write and run a program using 8086 assembly language that finds the smallest of four given values. The values are stored in four consecutive locations of memory. **20**

No. of Printed Page : 1

SET - 1

BACHELOR OF COMPUTER APPLICATIONS (BCA)
(Revised)
Term-End Practical Examination

02574

June, 2013

BCSL-022 : ASSEMBLY LANGUAGE PROGRAMMING LAB

Time allowed : 1 hour *Maximum Marks : 50*

Note : *(i) There are **two compulsory** questions of **20** marks each. Rest **10** marks are for **viva-voce**.*

(ii) Use any assembler or emulator of 8086 assembly language to run the programs.

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1. Write and run a program using 8086 assembly language that multiplies an 8 bit number (in the range 0-63) by 2 using shift operation. The eight bit number can directly be moved to AL register. **20**

2. Write and run a program using 8086 assembly language that finds the first occurence of a digit (that is any decimal digit 0, 1, 2, 3.....9) in a string of length 5. The string may be assumed to be stored in consecutive memory locations. The resultant location found may be stored in AL register. In case the string does not contain any digit then you should move 0 (zero) to AL register. **20**

No. of Printed Page : 1

SET - 2

BACHELOR OF COMPUTER APPLICATIONS (BCA)
(Revised)
Term-End Practical Examination 00748

June, 2013

BCSL-022 : ASSEMBLY LANGUAGE PROGRAMMING LAB

Time allowed : 1 hour *Maximum Marks : 50*

Note : *(i) There are **two compulsory** questions of **20** marks each. Rest **10** marks are for **viva-voce**.*

(ii) Use any assembler or emulator of 8086 assembly language to run assembly programs.

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1. Write and run a program using 8086 assembly language that divides a number in AL register (the number is in the range 0 to 63) by 2 using shift operation. You may move the number in AL register directly. The result should be left in AL register only. **20**

2. Write and run a program using 8086 assembly language that converts a 5 character long alphabet string of lower case characters to uppercase characters. Both the strings may be stored in the memory. **20**

No. of Printed Page : 1

SET - 3

BACHELOR OF COMPUTER APPLICATIONS (BCA)
(Revised)
Term-End Practical Examination

00034

June, 2013

BCSL-022 : ASSEMBLY LANGUAGE PROGRAMMING LAB

Time allowed : 1 hour *Maximum Marks : 50*

Note : *(i) There are **two compulsory** questions **20** marks each. Rest **10** marks are for **viva-voce**.*
(ii) Use any 8086 assembler or emulator to run assembly programs.

1. Write and run a program using 8086 assembly language that finds if the value stored in AL register is more than a value stored in a memory location; if it is more then AL register is cleared, otherwise AL register remains unchanged. **20**

2. Write and run a program using 8086 assembly language that converts a string of 5 characters into a coded string of 5 characters. The code calculation involves just incrementing the ASCII value of each character in the string by 1. The string and code are stored in different memory location. An example string and its code are : string - ABDEF ; code - BCEFG. **20**

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SET - 4

BACHELOR OF COMPUTER APPLICATIONS (BCA)
(Revised)
Term-End Practical Examination

00348

June, 2013

BCSL-022 : ASSEMBLY LANGUAGE PROGRAMMING LAB

Time allowed : 1 hour *Maximum Marks : 50*

Note : (i) *There are* ***two compulsory*** *questions of* **20** *marks each. Rest* **10** *marks are for* ***viva-voce.***

(ii) *Use any 8086 assembler or emulator to run the assembly programs.*

1. Write and run a program using 8086 assembly language that multiplies two 8 bit numbers stored in memory locations FIRST and SECOND. The result of the multiplication should be transferred to CX register. **20**

2. Write and run a program using 8086 assembly language that adds two arrays of size 4 each. Both the arrays and resultant array are stored in memory locations. The values stored in each element of arrays should be in the range of 0 to 25. This range in resultant array obviously would be 0-50. **20**

No. of Printed Page : **1**

SET - 1

BACHELOR OF COMPUTER APPLICATIONS (BCA) (Revised)
Term-End Practical Examination

December, 2013

BCSL-022 : ASSEMBLY LANGUAGE PROGRAMMING LAB

Time allowed : 1 hour *Maximum Marks : 50*

Note : *(i) There are **two compulsory** questions of **20** marks each. Rest **10** marks are for **viva-voce**.*

(ii) Use any assembler or emulator of 8086 assembly language to run the programs.

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1. Write and run a program using 8086 assembly language that converts an ASCII digit stored in AL register to equivalent binary number. For example, if AL register contains ASCII digit '7' then it should be converted to 0000 0111. **20**

2. Write and run a program using 8086 assembly language that interchanges the values stored in two memory locations. Make suitable assumptions, if any. **20**

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SET - 2

BACHELOR OF COMPUTER APPLICATIONS (BCA) (Revised)
Term-End Practical Examination

01211

December, 2013

BCSL-022 : ASSEMBLY LANGUAGE PROGRAMMING LAB

Time allowed : 1 hour *Maximum Marks : 50*

Note : *(i) There are **two compulsory** questions of **20** marks each. Rest **10** marks are for **viva-voce**.*

(ii) Use any assembler or emulator of 8086 assembly language to run the assembly programs.

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1. Write and run a program using 8086 assembly language that calculates the sum and difference of two values stored in the memory locations. **20**

2. Write and run a program using 8086 assembly language that multiplies the elements of an array of size 4 stored in the memory locations. The result of the multiplication is left in the registers. **20**

No. of Printed Page : 1

SET - 3

BACHELOR OF COMPUTER APPLICATIONS (BCA) (Revised)
Term-End Practical Examination

00601

December, 2013

BCSL-022 : ASSEMBLY LANGUAGE PROGRAMMING LAB

Time allowed : 1 hour *Maximum Marks : 50*

Note : *(i) There are **two compulsory** questions of **20** marks each. Rest **10** marks are for **viva-voce**.*
(ii) Use any 8086 assembler or emulator to run the assembly programs.

1. Write and run a program using 8086 assembly language that prints the ASCII character for a 8-bit value stored in BL register. **20**

2. Write and run a program using 8086 assembly language that checks if any of the values in an array of size 5 is zero. In case a zero value is found, the index of that array location is moved to DL register, otherwise DL register is cleared. **20**

No. of Printed Page : 1

SET - 4

BACHELOR OF COMPUTER APPLICATIONS (BCA) (Revised)

Term-End Practical Examination

00484

December, 2013

BCSL-022 : ASSEMBLY LANGUAGE PROGRAMMING LAB

Time allowed : 1 hour *Maximum Marks : 50*

Note : *(i) There are **two compulsory** questions of **20** marks each. Rest **10** marks are for **viva-voce**.*

(ii) Use any 8086 assembler or emulator to run the assembly programs.

1. Write and run a program using 8086 assembly language that divides a 16 bit number, by an 8 bit number. You may assume that both the numbers are in memory locations and result of division are left in registers. **20**

2. Write and run a program using 8086 assembly language that compares if two strings are identical or not. You may assume that both the strings are of size 5 and are stored in memory locations. In case both the strings are same AL register is given a value 1, else it is cleared. **20**

No. of Printed Pages : 1

BCSL-022(P)/S1

BACHELOR OF COMPUTER APPLICATIONS (Revised)

(BCA)

Term-End Practical Examination

June, 2014

BCSL-022(P)/S1 : ASSEMBLY LANGUAGE PROGRAMMING LAB

Time : 1 Hour *Maximum Marks : 50*

Note : *(i) There are **two compulsory** questions of 20 marks each. Rest 10 marks are for viva-voce.*

(ii) Use any assembler or emulator of 8086 assembly language to run the programs.

1. Write and run a program using 8086 assembly language that checks if the values stored in AL register and BL register are same. If both the values are same, the program output is "SAME", otherwise it outputs nothing. *20*

2. Write and run a program using 8086 assembly language that adds value 0000 0101 in each value of an array of 5 elements containing binary values 0000 1101, 0000 1111, 0001 1111, 0000 1110, 0001 1010. This array should be in the memory. *20*

No. of Printed Pages : 1

BCSL-022(P)/S2

BACHELOR OF COMPUTER APPLICATIONS (Revised)

(BCA)

00184

Term-End Practical Examination

June, 2014

BCSL-022(P)/S2 : ASSEMBLY LANGUAGE PROGRAMMING LAB

Time : 1 Hour *Maximum Marks : 50*

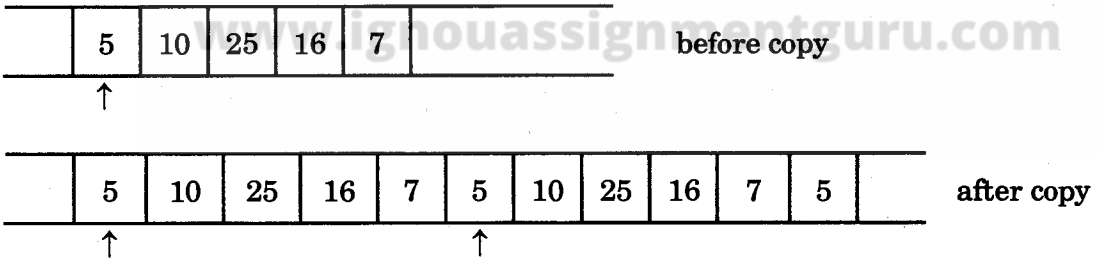
Note : *(i) There are **two compulsory** questions of 20 marks each. Rest 10 marks are for viva-voce.*

(ii) Use any assembler or emulator of 8086 assembly language to run the programs.

1. Write and run a program using 8086 assembly language that clears the upper 4 bits of AL register. For example, if AL register contains 0110 0101 then after the program is run AL register will contain 0000 0101. *20*

2. Write and run a program using 8086 assembly language that copies an array of size 5 stored in memory to another memory location. *20*

For example, if memory stored



Please note that actual values stored in memory are binary. The decimal values are shown for illustration purpose only.

No. of Printed Pages : 1

BCSL-022(P)/S3

BACHELOR OF COMPUTER APPLICATIONS (Revised)

(BCA)

00587

Term-End Practical Examination

June, 2014

BCSL-022(P)/S3 : ASSEMBLY LANGUAGE PROGRAMMING LAB

Time : 1 Hour *Maximum Marks : 50*

Note : *(i) There are **two compulsory** questions of 20 marks each. Rest 10 marks are for viva-voce.*

(ii) Use any assembler or emulator of 8086 assembly language to run the programs.

1. Write and run a program using 8086 assembly language that separates the upper and lower 4 bits of the data stored in BL register. The result is stored in AH and AL register. For example, if BL register contains :

0110 1001 then after the program is run

AH register will contain 0000 0110

and AL register will contain 0000 1001 *20*

2. Find the largest of the numbers stored in an Array of size 7. The program stores the largest number in AL register. For example, if any array contains 5, 10, 20, 1, 6 then the program should bring 20 in AL register. Please note that the actual data will be binary. The decimal values are shown for illustration purpose only. Also note that array should be stored as byte array in the memory. *20*

No. of Printed Pages : 1

BCSL-022(P)/S4

BACHELOR OF COMPUTER APPLICATIONS (Revised)

00364

(BCA)

Term-End Practical Examination

June, 2014

BCSL-022(P)/S4 : ASSEMBLY LANGUAGE PROGRAMMING LAB

Time : 1 Hour *Maximum Marks : 50*

Note : *(i) There are **two compulsory** questions of 20 marks each. Rest 10 marks are for viva-voce.*

(ii) Use any assembler or emulator of 8086 assembly language to run the programs.

1. Write and run a program using 8086 assembly language that multiplies a number 0001 1001 stored in AL register by a number 0000 0100 using shift operation. *20*

2. Write and run a program using 8086 assembly language that finds the length of an array in AL register. The array stores integers in the range 1 to 20. The array is terminated by putting 0 as the last value. For example, if the array 1, 2, 5, 7, 5, 0 has a length of 5. Please note that values are to be stored as binary. The decimal values are shown for the purpose of illustration only. Also note that array should be stored in memory. *20*

No. of Printed Pages : 1

BCSL-022(P)/S1

BACHELOR OF COMPUTER APPLICATIONS (Revised)

(BCA)

Term-End Practical Examination

00734

December, 2014

BCSL-022(P)/S1 : ASSEMBLY LANGUAGE PROGRAMMING LAB

Time : 1 Hour *Maximum Marks : 50*

Note : *(i) There are two **compulsory** questions of 20 marks each in this paper. Rest 10 marks are for viva-voce.*

(ii) Use any assembler or emulator of 8086 assembly language to run the programs.

1. Write and run a program using 8086 assembly language that interchanges the upper and lower four bits of AL register. You may assume that AL register contains 1001 0110. After execution of your program AL should contain 0110 1001. *20*

2. Write and run a program using 8086 assembly language that adds the values stored in an array of 4 elements. The array should be a byte array stored in the memory. The result of the operation should be stored in the DX register. You may assume that no overflow occurs. *20*

No. of Printed Pages : 1

BCSL-022(P)/S2

BACHELOR OF COMPUTER APPLICATIONS (Revised)

(BCA)

00274

Term-End Practical Examination

December, 2014

BCSL-022(P)/S2 : ASSEMBLY LANGUAGE PROGRAMMING LAB

Time : 1 Hour *Maximum Marks : 50*

Note : *(i) There are two **compulsory** questions of 20 marks each in this paper. Rest 10 marks are for viva-voce.*

(ii) Use any assembler or emulator of 8086 assembly language to run the programs.

1. Write and run a program using 8086 assembly language that converts an ASCII digit stored in a memory location into an equivalent binary number. The binary number should be stored in CH register. For example, if memory location contains ASCII equivalent of digit 5, then CH register will get the value 0000 0101. *20*

2. Write and run a program using 8086 assembly language that searches for a value in an array of 5 elements. The array should be a byte array stored in the memory locations. In case the value is found in the array then location of the element is put in the BL register, else 0 is put in the BL register. For example, if array in the memory is

	05	07	1A	09	71	

(all numbers are in hexadecimal)

and you are looking for $(05)_h$ then output of the program will be 1 which will be stored in the BL register. *20*

No. of Printed Pages : 1

BCSL-022(P)/S3

BACHELOR OF COMPUTER APPLICATIONS (Revised)
(BCA)
Term-End Practical Examination
December, 2014

00284

BCSL-022(P)/S3 : ASSEMBLY LANGUAGE PROGRAMMING LAB

Time : 1 Hour *Maximum Marks : 50*

Note : *(i) There are two **compulsory** questions of 20 marks each in this paper. Rest 10 marks are for viva-voce.*

(ii) Use any assembler or emulator of 8086 assembly language to run the programs.

1. Write and run a program using 8086 assembly language that adds two binary numbers of 8 bits stored in two consecutive memory locations. Store the result in another memory location. You may assume that no overflow occurs. *20*

2. Write and run a program using 8086 assembly language that finds the smallest value in an array containing 5 elements. The array should be a byte array stored in memory locations. The smallest value should be stored in the BH register. *20*

No. of Printed Pages : 1

BCSL-022(P)/S4

BACHELOR OF COMPUTER APPLICATIONS (Revised)

(BCA)

00114

Term-End Practical Examination

December, 2014

BCSL-022(P)/S4 : ASSEMBLY LANGUAGE PROGRAMMING LAB

Time : 1 Hour *Maximum Marks : 50*

Note : *(i) There are two **compulsory** questions of 20 marks each in this paper. Rest 10 marks are for viva-voce.*

(ii) Use any assembler or emulator of 8086 assembly language to run the programs.

1. Write and run a program using 8086 assembly language that creates an eight-bit number from two four-bit numbers. The following example explains this : *20*

Consider BL register contains 0000 0110

and DL register contains 0000 1001

then you need to create an eight-bit number from BL and DL in AL register.

The AL should contain 0110 1001

2. Write and run a program using 8086 assembly language that searches for an ASCII character in an array of five ASCII characters. The array is stored in the memory locations. The program stores a value 1 in AL register, if the character is found, else AL register contains 0. *20*

No. of Printed Pages : 1

BCSL-022(P)/S1

BACHELOR OF COMPUTER APPLICATIONS (Revised)

(BCA)

01083

Term-End Practical Examination

June, 2015

BCSL-022(P)/S1 : ASSEMBLY LANGUAGE PROGRAMMING LAB

Time : 1 Hour *Maximum Marks : 50*

Note : *(i) There are **two compulsory** questions of 20 marks each in this paper. Rest 10 marks are for viva-voce.*

(ii) Use any assembler or emulator of 8086 assembly language to run the programs.

1. Write and run a program using 8086 assembly language that multiplies two 8-bit numbers stored in two consecutive memory locations. The result of multiplication should be moved to DX register. *20*

2. Write and run a program using 8086 assembly language that moves the contents of DX : AX register pair to byte array of size 4 in the memory. *20*

No. of Printed Pages : 1

BCSL-022(P)/S2

BACHELOR OF COMPUTER APPLICATIONS (Revised)

(BCA)

Term-End Practical Examination

01953

June, 2015

BCSL-022(P)/S2 : ASSEMBLY LANGUAGE PROGRAMMING LAB

Time : 1 Hour *Maximum Marks : 50*

Note : *(i) There are **two compulsory** questions of 20 marks each in this paper. Rest 10 marks are for viva-voce.*

(ii) Use any assembler or emulator of 8086 assembly language to run the programs.

1. Write and run a program using 8086 assembly language that adds two single digit ASCII digits stored in two consecutive memory locations. The result must be moved to DL register. *20*

2. Write and run a program using 8086 assembly language that counts the number of non-zero numbers stored in a byte array of size five. The array is stored in the memory. The count is left in AL register. For example, if the memory contains the array :

	51	00	31	00	25	

then the program should output 3 in AL register. *20*

No. of Printed Pages : 1

BCSL-022(P)/S3

BACHELOR OF COMPUTER APPLICATIONS (Revised)
(BCA)
Term-End Practical Examination
June, 2015

00793

BCSL-022(P)/S3 : ASSEMBLY LANGUAGE PROGRAMMING LAB

Time : 1 Hour *Maximum Marks : 50*

Note : *(i) There are **two compulsory** questions of 20 marks each in this paper. Rest 10 marks are for viva-voce.*

(ii) Use any assembler or emulator of 8086 assembly language to run the programs.

1. Write and run a program using 8086 assembly language that interchanges the values of two bytes stored in two different memory locations. *20*

2. Write and run a program using 8086 assembly language that adds alternate value stored in a byte array of five elements stored in the memory. For example, if the array contains :

	21	32	51	23	45	

(all numbers in hexadecimal)

then the program should add the values 21, 51 and 45. The result must be put in AX register. *20*

No. of Printed Pages : 1

BCSL-022(P)/S4

BACHELOR OF COMPUTER APPLICATIONS (Revised)

(BCA)

00473

Term-End Practical Examination

June, 2015

BCSL-022(P)/S4 : ASSEMBLY LANGUAGE PROGRAMMING LAB

Time : 1 Hour *Maximum Marks : 50*

Note : *(i) There are **two compulsory** questions of 20 marks each in this paper. Rest 10 marks are for viva-voce.*

(ii) Use any assembler or emulator of 8086 assembly language to run the programs.

1. Write and run a program using 8086 assembly language that compares two values stored in two different memory locations. If both the values are same, then the program puts 1 in AL register, otherwise AL register is cleared. *20*

2. Write and run a program using 8086 assembly language that stores consecutive values in a byte array of 5 elements in the memory. The first value should be 32. Thus, the program will result in storing the following values in the memory array : *20*

	32	33	34	35	36	

No. of Printed Pages : 1

BCSL-022(P)/S1

BACHELOR OF COMPUTER APPLICATIONS (Revised)

(BCA)

Term-End Practical Examination

01749

December, 2015

BCSL-022(P)/S1 : ASSEMBLY LANGUAGE PROGRAMMING LAB

Time : 1 Hour *Maximum Marks : 50*

Note : *(i) There are two **compulsory** questions of 20 marks each in this paper. Rest 10 marks are for viva-voce.*

(ii) Use any assembler or emulator of 8086 assembly language to run the programs.

1. Write and run a program using 8086 assembly language that reads an 8-bit value stored in a memory location into AL register, then left shifts the content of AL register and finally stores the result back in the memory location from which it was read. *20*

2. Write and run a program using 8086 assembly language that first moves a value $(1A2B)_h$ in AX register and $(3C4D)_h$ value in BX register. The program then transfers these values to a 4-byte array that is to be kept in the memory. *20*

No. of Printed Pages : 1

BCSL-022(P)/S2

BACHELOR OF COMPUTER APPLICATIONS (Revised)

(BCA)

01759

Term-End Practical Examination

December, 2015

BCSL-022(P)/S2 : ASSEMBLY LANGUAGE PROGRAMMING LAB

Time : 1 Hour *Maximum Marks : 50*

Note : *(i) There are two **compulsory** questions of 20 marks each in this paper. Rest 10 marks are for viva-voce.*

(ii) Use any assembler or emulator of 8086 assembly language to run the programs.

1. Write and run a program using 8086 assembly language that clears the upper 4 bits of AL register using BL register and any logic operation. You must decide the content of BL register yourself. *20*

2. Write and run a program using 8086 assembly language that adds the even and odd elements of a byte array. You may assume that the array consists of four elements only. The sum of even elements should be stored in a memory location, while the sum of odd elements be stored in DX register. *20*

No. of Printed Pages : 1

BCSL-022(P)/S3

BACHELOR OF COMPUTER APPLICATIONS (Revised)

(BCA)

Term-End Practical Examination

December, 2015

01999

BCSL-022(P)/S3 : ASSEMBLY LANGUAGE PROGRAMMING LAB

Time : 1 Hour *Maximum Marks : 50*

Note : *(i) There are two **compulsory** questions of 20 marks each in this paper. Rest 10 marks are for viva-voce.*

(ii) Use any assembler or emulator of 8086 assembly language to run the programs.

1. Write and run a program using 8086 assembly language that transfers two byte values stored in memory to AL and BL registers respectively. It then compares AL and BL register values and stores the smaller of the two in DL register. *20*

2. Write and run a program using 8086 assembly language that initialises an array of 5 elements by decimal values 3, 5, 7, 9 and 11 respectively. *20*

No. of Printed Pages : 1

BCSL-022(P)/S4

BACHELOR OF COMPUTER APPLICATIONS (Revised)

(BCA)

Term-End Practical Examination

00089

December, 2015

BCSL-022(P)/S4 : ASSEMBLY LANGUAGE PROGRAMMING LAB

Time : 1 Hour *Maximum Marks : 50*

Note : *(i) There are two **compulsory** questions of 20 marks each in this paper. Rest 10 marks are for viva-voce.*

(ii) Use any assembler or emulator of 8086 assembly language to run the programs.

1. Write and run a program using 8086 assembly language that stores a value 10000101 in AL register. It then divides the number by 2 using shift operation. *20*

2. Write and run a program using 8086 assembly language that converts ASCII digits stored in four consecutive bytes in an array to a binary number. For example, if the array contains :

	'2'	'4'	'3'	'5'	

Then the output will be binary equivalent of number 2435. The binary number should be stored in DX register. *20*

No. of Printed Pages : **1**

BCSL-022 - Set - 1

BACHELOR OF COMPUTER APPLICATIONS (BCA)
(Revised)

Term-End Examination 03338

June, 2016

BCSL-022 - Set - 1 : ASSEMBLY LANGUAGE PROGRAMMING LAB

Time : 1 hour *Maximum Marks : 50*

Note : (i) *There are two compulsory questions in this paper of 20 marks each. Rest 10 marks are for viva-voce.*

(ii) *Use any assembler or emulator of 8086 assembly language to run the programs.*

1. Write and run a program using 8086 assembly language that reads a byte value stored in a memory location into AH register and then clears the lower four bits of AH register. For example, if the memory location has value (in binary) 0101 0111 then first it is brought to AH register and then the lower four bits will be cleared to give value 0101 0000 in AH register. **20**

2. Write and run a program using 8086 assembly language that finds the sum of even indexed elements of a byte array having ten elements. You may assume that the first element of the array has an index 0. The sum should be stored in AX register. **20**

No. of Printed Pages : **1**

BCSL-022 - Set - 2

BACHELOR OF COMPUTER APPLICATIONS (BCA)
(Revised)

Term-End Examination

01856

June, 2016

BCSL-022 - Set - 2 : ASSEMBLY LANGUAGE PROGRAMMING LAB

Time : 1 hour *Maximum Marks : 50*

Note : (i) *There are two compulsory questions in this paper of 20 marks each. Rest 10 marks are for viva-voce.*

(ii) *Use any assembler or emulator of 8086 assembly language to run the programs.*

1. Write and run a program using 8086 assembly language that interchanges the lower four bits of AL register with upper four bits. For example if AL register contains (in binary) 0110 0001 then after the program is run it will be changed to 0001 0110. The result of the operation is then stored in a memory location. **20**

2. Write and run a program using 8086 assembly language that finds the difference between corresponding elements of two byte arrays, of five elements each. Assume that arrays are stored in memory. The difference is also to be stored in a separate array in memory. The following example illustrates the working of program : **20**

Array X in memory (in hexadecimal)	$(51)_h$	$(64)_h$	$(27)_h$	$(37)_h$
Array Y (in hexadecimal)	$(11)_h$	$(12)_h$	$(13)_h$	$(14)_h$
The expected result (in hexadecimal)	$(40)_h$	$(52)_h$	$(14)_h$	$(23)_h$

No. of Printed Pages : **1**

BCSL-022 - Set - 3

BACHELOR OF COMPUTER APPLICATIONS (BCA)
(Revised)

01828

Term-End Examination

June, 2016

BCSL-022 - Set - 3 : ASSEMBLY LANGUAGE PROGRAMMING LAB

Time : 1 hour *Maximum Marks : 50*

Note : (i) *There are two compulsory questions in this paper of 20 marks each. Rest 10 marks are for viva-voce.*

(ii) *Use any assembler or emulator of 8086 assembly language to run the programs.*

1. Write and run a program using 8086 assembly language that finds the difference of two byte values stored in memory and then multiplies the difference by 2. The result is then moved to a third memory location. **20**

2. Write and run a program using 8086 assembly language that adds two byte arrays stored in the memory. The arrays should be of 5 elements each. The resultant array should be stored separately in the memory. **20**

No. of Printed Pages : 1

BCSL-022 - Set - 4

BACHELOR OF COMPUTER APPLICATIONS (BCA)
(Revised)

Term-End Examination

01388

June, 2016

BCSL-022 - Set - 4 : ASSEMBLY LANGUAGE PROGRAMMING LAB

Time : 1 hour *Maximum Marks : 50*

Note : (i) *There are two compulsory questions in this paper of 20 marks each. Rest 10 marks are for viva-voce.*

(ii) *Use any assembler or emulator of 8086 assembly language to run the programs.*

1. Write and run a program using 8086 assembly language that exchanges the byte values stored in two different memory locations only if the value stored in first location is higher than the second location. For example if the two memory locations contain $(25)_h$ and $(15)_h$ respectively then the values will be exchanged to $(15)_h$ and $(25)_h$ respectively as first value is higher than the second. **20**

2. Write and run a program using 8086 assembly language that multiplies every element of an array by 2. The resultant array is also stored in memory. You may assume both the arrays (original and resultant) to be byte arrays of 5 elements each. Ignore any overflow. **20**

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BCSL-022(P)/S1

BACHELOR OF COMPUTER APPLICATIONS (Revised)

(BCA)

Term-End Practical Examination

01993

December, 2016

BCSL-022(P)/S1 : ASSEMBLY LANGUAGE PROGRAMMING LAB

Time : 1 Hour *Maximum Marks : 50*

Note : *(i) There are two **compulsory** questions of 20 marks each in this paper. Rest 10 marks are for viva-voce.*

(ii) Use any assembler or emulator of 8086 assembly language to run the programs.

1. Write and run a program using 8086 assembly language that performs OR operation on two byte values stored in the memory. For example, if the values stored in the memory are 01010011 and 10101100, then the result of OR operation should be 1111 1111. The result should be left in AL register. *20*

2. Write and run a program using 8086 assembly language that adds 1^{st}, 3^{rd}, 5^{th}, 7^{th} and 9^{th} elements of a byte array having 10 elements. The result is stored in AH : AL registers. *20*

No. of Printed Pages : 1

BCSL-022(P)/S2

BACHELOR OF COMPUTER APPLICATIONS (Revised)

(BCA)

00493

Term-End Practical Examination

December, 2016

BCSL-022(P)/S2 : ASSEMBLY LANGUAGE PROGRAMMING LAB

Time : 1 Hour *Maximum Marks : 50*

Note : *(i) There are two **compulsory** questions of 20 marks each in this paper. Rest 10 marks are for viva-voce.*

(ii) Use any assembler or emulator of 8086 assembly language to run the programs.

1. Write and run a program using 8086 assembly language that interchanges the values stored in two 16-bit words. You may assume that both the words are stored in memory locations. *20*

2. Write and run a program using 8086 assembly language that finds the sum of lower four bits of a byte array of six elements stored in memory. For example, if the byte array in memory contains

01101000 10010001 10010011 01110011 01111101 00110111,

then the program should add

00001000 00000001 00000011 00000011 00001101 00000111

to get the result 00100011. This result should be left in AL register. *20*

No. of Printed Pages : 1

BCSL-022(P)/S3

BACHELOR OF COMPUTER APPLICATIONS (Revised)

(BCA)

00713

Term-End Practical Examination

December, 2016

BCSL-022(P)/S3 : ASSEMBLY LANGUAGE PROGRAMMING LAB

Time : 1 Hour *Maximum Marks : 50*

Note : *(i) There are two **compulsory** questions of 20 marks each in this paper. Rest 10 marks are for viva-voce.*

(ii) Use any assembler or emulator of 8086 assembly language to run the programs.

1. Write and run a program using 8086 assembly language that adds a value 5 into the byte value stored in a memory location. The resultant is multiplied by 4. The final result is stored back in a separate memory location/locations. *20*

2. Write and run a program using 8086 assembly language that adds the first seven elements of a byte array and then subtracts the remaining 3 elements from the resultant of addition. The final result is left in AX register. *20*

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BCSL-022(P)/S4

BACHELOR OF COMPUTER APPLICATIONS (Revised)

(BCA)

Term-End Practical Examination

December, 2016

BCSL-022(P)/S4 : ASSEMBLY LANGUAGE PROGRAMMING LAB

Time : 1 Hour *Maximum Marks : 50*

Note : *(i) There are two **compulsory** questions of 20 marks each in this paper. Rest 10 marks are for viva-voce.*

(ii) Use any assembler or emulator of 8086 assembly language to run the programs.

1. Write and run a program using 8086 assembly language that adds two byte values stored in two consecutive locations of memory, only if the first value is smaller than the second value. Make suitable assumptions, if any. The result of the addition can be left in AX register. *20*

2. Write and run a program using 8086 assembly language that adds a value 5 in every element of a byte array having 10 elements. The resultant array is stored in a different location. Make suitable assumptions, if any. *20*

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BCSL-022(P)/S1

BACHELOR OF COMPUTER APPLICATIONS (Revised)

(BCA)

00797

Term-End Practical Examination

June, 2017

BCSL-022(P)/S1 : ASSEMBLY LANGUAGE PROGRAMMING LAB

Time : 1 Hour *Maximum Marks : 50*

Note : *(i) There are two **compulsory** questions of 20 marks each in this paper. Rest 10 marks are for viva-voce.*

(ii) Use any assembler or emulator of 8086 assembly language to run the programs.

1. Write and run a program using 8086 assembly language that clears lower 4 bits of AL register using BL register. The values of AL and BL registers can be assumed as :

	AL	0100	1100
	BL	1111	0000
After the clear operation	AL	0100	0000

— The value of BL register remains unchanged. *20*

2. Write and run a program using 8086 assembly language that finds the area of a rectangle. You may assume that the dimensions of the rectangle are stored in two consecutive byte locations in the memory. The result of the operation must be stored in DX register. *20*

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BCSL-022(P)/S2

BACHELOR OF COMPUTER APPLICATIONS (Revised)

(BCA)

Term-End Practical Examination

02995

June, 2017

BCSL-022(P)/S2 : ASSEMBLY LANGUAGE PROGRAMMING LAB

Time : 1 Hour *Maximum Marks : 50*

Note : *(i) There are two **compulsory** questions of 20 marks each in this paper. Rest 10 marks are for viva-voce.*

(ii) Use any assembler or emulator of 8086 assembly language to run the programs.

1. Write and run a program using 8086 assembly language that converts a single digit decimal value stored in byte memory location to equivalent ASCII value. For example, if the memory location contains a value 00000101, then the program converts it to ASCII character '5'. The ASCII value is left in AL register. *20*

2. Write a program using 8086 assembly language that finds the first zero value stored in a byte array of 5 elements stored in the consecutive memory locations. The output of the program should be index of the location, which should be stored in DL register. Use the following data for the program :

Array should contain (values is hexadecimal)

55h, 25h, 00h, 10h, 00h

The output of the program should be index value 2 (index value of 55h may be assumed to be zero). This index value must be stored in DL register. *20*

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BCSL-022(P)/S3

BACHELOR OF COMPUTER APPLICATIONS (Revised)

(BCA)

01505

Term-End Practical Examination

June, 2017

BCSL-022(P)/S3 : ASSEMBLY LANGUAGE PROGRAMMING LAB

Time : 1 Hour *Maximum Marks : 50*

Note : *(i) There are two **compulsory** questions of 20 marks each in this paper. Rest 10 marks are for viva-voce.*

(ii) Use any assembler or emulator of 8086 assembly language to run the programs.

1. Write and run a program using 8086 assembly language that interchanges the upper four bits with lower four bits. You may assume that the data is stored in a byte memory location and it is to be written back to the same location after the operation. You may assume the data as 27h and it is to be written back after interchange as 72h. *20*

2. Write and run a program using 8086 assembly language that creates five consecutive odd values starting from 1 in five consecutive byte memory locations. You must use looping for writing the program. Make suitable assumptions, if any. *20*

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BCSL-022(P)/S4

BACHELOR OF COMPUTER APPLICATIONS (Revised)

(BCA)

00898

Term-End Practical Examination

June, 2017

BCSL-022(P)/S4 : ASSEMBLY LANGUAGE PROGRAMMING LAB

Time : 1 Hour *Maximum Marks : 50*

Note : *(i) There are two **compulsory** questions of 20 marks each in this paper. Rest 10 marks are for viva-voce.*

(ii) Use any assembler or emulator of 8086 assembly language to run the programs.

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1. Write and run a program using 8086 assembly language that finds the average of three byte numbers stored in consecutive memory locations. You need not use loop for this purpose. The result is stored in CX register. *20*

2. Write and run a program using 8086 assembly language which adds two byte arrays of 5 elements each. The arrays are stored in memory. The result of the array addition is stored back in a third byte memory array (assume there is no overflow). You should use looping to write this program. *20*

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BCSL-022(P)/S1

BACHELOR OF COMPUTER APPLICATIONS (Revised)

(BCA)

02372

Term-End Practical Examination

December, 2017

BCSL-022(P)/S1 : ASSEMBLY LANGUAGE PROGRAMMING LAB

Time : 1 Hour *Maximum Marks : 50*

Note : *(i) There are two **compulsory** questions of 20 marks each in this paper. Rest 10 marks are for viva-voce.*

(ii) Use any assembler or emulator of 8086 assembly language to run the programs.

1. Write and run a program using 8086 assembly language that clears the upper four bits of AL register using BL register, and then left shifts the AL register by 4 bits. You may assume that the AL register contains 01011010 and the BL register contains 00001111. The output of the operation should be left in AL register. *20*

2. Write and run a program using 8086 assembly language that calculates the area of a circle. You may assume that the value of the radius is stored in a byte memory location. Assume the radius to be 5 units. The result of the operation must be transferred to DX register. *20*

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BCSL-022(P)/S2

BACHELOR OF COMPUTER APPLICATIONS (Revised)

(BCA)

Term-End Practical Examination

00342

December, 2017

BCSL-022(P)/S2 : ASSEMBLY LANGUAGE PROGRAMMING LAB

Time : 1 Hour *Maximum Marks : 50*

Note : *(i) There are two **compulsory** questions of 20 marks each in this paper. Rest 10 marks are for viva-voce.*

(ii) Use any assembler or emulator of 8086 assembly language to run the programs.

1. Write and run a program using 8086 assembly language that adds the upper and lower 4 bits of AL register using BL and DL registers. For example, if AL register contains 01010010, then the program should separate the upper 4 bits and the lower 4 bits in BL and DL registers respectively so that BL will contain 00000101 and DL will contain 00000010. The program then adds these registers. The result should be put in AL register. *20*

2. Write and run a program using 8086 assembly language that locates the first instance of a value '10h' in a byte array stored in the memory. The output of the program should be the offset in the array. The output should be left in CL register. For example, if a memory array contains 00h, 05h, 51h, 10h, 22h, 10h, then the program should output 03h which should be in CL register. *20*

No. of Printed Pages : 1

BCSL-022(P)/S4

BACHELOR OF COMPUTER APPLICATIONS (Revised)
(BCA)
Term-End Practical Examination
December, 2017

00172

BCSL-022(P)/S4 : ASSEMBLY LANGUAGE PROGRAMMING LAB

Time : 1 Hour *Maximum Marks : 50*

Note : (i) *There are two* ***compulsory*** *questions of 20 marks each in this paper. Rest 10 marks are for viva-voce.*

(ii) *Use any assembler or emulator of 8086 assembly language to run the programs.*

1. Write and run a program using 8086 assembly language that finds the $(\text{distance})^2$ between two points. A point is stored in two consecutive locations (byte) with the first location as x-coordinate and the second location as y-coordinate. You must store two such points in memory and find the $(\text{distance})^2$ using the formula $(\text{distance})^2 = (x_2 - x_1)^2 + (y_2 - y_1)^2$.

You must store the $(\text{distance})^2$ value in AX register. *20*

2. Write and run a program using 8086 assembly language which finds the sum and average of five consecutive byte numbers stored in the memory. You must use looping to write this program. The result must be stored in BX register (sum) and DL register (average). *20*

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BCSL-022(P)/S1

BACHELOR OF COMPUTER APPLICATIONS (Revised)

(BCA)

Term-End Practical Examination

June, 2018

00750

BCSL-022(P)/S1 : ASSEMBLY LANGUAGE PROGRAMMING LAB

Time : 1 Hour *Maximum Marks : 50*

Note : *(i) There are two **compulsory** questions of 20 marks each in this paper. Rest 10 marks are for viva-voce.*

(ii) Use any assembler or emulator of 8086 assembly language to run the programs.

1. Write and run a program using 8086 assembly language that makes the upper four bits of AL register as 1111 using BL register. This is followed by a single bit left shift operation on AL register. You may assume that initially AL register contains 01011001 and BL register contains 10100000. The output of the operation should be left in AL register. *20*

2. Write and run a program using 8086 assembly language that adds a fixed value (say value 1) stored in BL register to each of the five consecutive byte values stored in consecutive memory locations. The values after adding BL are written back to memory locations. You may ignore overflow, if any. *20*

No. of Printed Pages : 1

BCSL-022(P)/S2

BACHELOR OF COMPUTER APPLICATIONS (Revised)

(BCA)

Term-End Practical Examination

02911

June, 2018

BCSL-022(P)/S2 : ASSEMBLY LANGUAGE PROGRAMMING LAB

Time : 1 Hour *Maximum Marks : 50*

Note : *(i) There are two **compulsory** questions of 20 marks each in this paper. Rest 10 marks are for viva-voce.*

(ii) Use any assembler or emulator of 8086 assembly language to run the programs.

1. Write and run a program using 8086 assembly language that interchanges the values stored in AL register with a byte value stored in the memory. The program then adds DH register to AL register. The result of this addition should be left in AL register. Make and state suitable assumptions, if any. *20*

2. Write and run a program using 8086 assembly language that finds the first value that is more than the binary value 0000 0011 from the values stored in a byte array in the memory. For example, if 00h, 01h, 02h, 03h, 04h, 05h are stored in a memory array, then program should output 04h which is the first value that is more than 0000 0011 (binary). *20*

No. of Printed Pages : 1

BCSL-022(P)/S3

BACHELOR OF COMPUTER APPLICATIONS (Revised)

(BCA)

Term-End Practical Examination

00739

June, 2018

BCSL-022(P)/S3 : ASSEMBLY LANGUAGE PROGRAMMING LAB

Time : 1 Hour *Maximum Marks : 50*

Note : *(i) There are two **compulsory** questions of 20 marks each in this paper. Rest 10 marks are for viva-voce.*

(ii) Use any assembler or emulator of 8086 assembly language to run the programs.

1. Write and run a program using 8086 assembly language that multiplies the values stored in two consecutive byte locations. The result is left in AH register. *20*

2. Write and run a program using 8086 assembly language that checks if the value stored in a byte memory location is less than, equal to or more than the value stored in the AL register. The program stores 0 in CL register, if value of the memory location is less than the value in AL; or stores 1 in CL register if value of the memory location is equal to the value in AL; or 2 if the value of the memory location is more than the value in the AL register. *20*

No. of Printed Pages : 1

BCSL-022(P)/S4

BACHELOR OF COMPUTER APPLICATIONS (Revised)
(BCA)
Term-End Practical Examination
June, 2018

00125

BCSL-022(P)/S4 : ASSEMBLY LANGUAGE PROGRAMMING LAB

Time : 1 Hour *Maximum Marks : 50*

Note : *(i) There are two **compulsory** questions of 20 marks each in this paper. Rest 10 marks are for viva-voce.*

(ii) Use any assembler or emulator of 8086 assembly language to run the programs.

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1. Write and run a program using 8086 assembly language that finds the difference between the byte values stored in two consecutive locations. The program then squares this difference and stores the result in DX register. *20*

2. Write and run a program using 8086 assembly language which reads the byte values stored in four consecutive memory locations into AL, BL, AH and BH registers respectively. The program then finds the average of values stored in AX and BX registers. The result of the operation should be stored in DX register. *20*

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No. of Printed Pages : 2

BCSL-022/S1

Bachelor of Computer Application (Revised) (BCA) Term-End Examination

December, 2018

ASSEMBLY LANGUAGE PROGRAMMING LAB

Time : 1 Hour *Maximum Marks : 50*

Note : (i) There are ***two*** compulsory questions of 20 marks each in this paper. Rest 10 marks are for viva-voce.

(ii) Use any assembler or emulator of 8086 assembly language to run the programs.

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1. Write and run a program using 8086 assembly language that increments a byte value stored in a memory location by a value 2. The result should be stored in the same memory location. For example, if a memory location contains 0101 0001, then the program will add 2 to this value and store the result 0101 0011 (after adding 2) in the same location. 20

2. Write and run a program using 8086 assembly language that compares the values of AL and BL registers. In case AL is more than BL, then program clears BL register otherwise it clears AL register. You can move value '1100 1010' in AL register and '1100 1000' in BL register, initially. 20

54233

No. of Printed Page : 2

BCSL-022/S2

Bachelor of Computer Application (Revised) (BCA)

Term-End Examination

December, 2018

ASSEMBLY LANGUAGE PROGRAMMING LAB

Time : 1 Hour *Maximum Marks : 50*

Note : (i) There are ***two*** compulsory questions of 20 marks each in this paper. Rest 10 marks are for viva-voce.

(ii) Use any assembler or emulator of 8086 assembly language to run the programs.

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1. Write and run a program using 8086 assembly language that adds two numbers stored in two consecutive bytes in the memory. The result of addition should be kept in AL register. Carry bit due to addition, if any, should be stored in AH register. 20

2. Write and run a program using 8086 assembly language which finds the highest of four byte values stored in memory. The highest value should be left in AL register. 20

54993

No. of Printed Pages : 2

BCSL-022/S3

Bachelor of Computer Application (Revised) (BCA)

Term-End Examination

December, 2018

ASSEMBLY LANGUAGE PROGRAMMING LAB

Time : 1 Hour *Maximum Marks : 50*

Note : (i) There are ***two*** compulsory questions of 20 marks each in this paper.

(ii) Rest 10 marks are for viva-voce.

(iii) Use any assembler or emulator of 8086 assembly language to run the programs.

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1. Write and run a program using 8086 assembly language that clears the top four bits of AL register using BL register. You may assume that AL register contains '0111 0101'. You have to move appropriate value in BL register and perform the operation(s) using AL and BL such that resultant value in AL register is '0000 0101'. You should not move this value directly in AL register. 20

2. Write and run a program using 8086 assembly language that finds the first value that is more than 35 h form the 5 given byte values in the consecutive memory locations. You may assume that five values in the consecutive memory locations are : 20

   29 h, 32 h, 35 h, 39 h, 21 h