BACHELOR OF COMPUTER APPLICATIONS
(BCA)

(Revised Syllabus)

ASSIGNMENTS

(July - 2025 & January – 2026 sessions)

ECO-02, MCS-011, MCS-012, MCS-015, MCS-013, BCSL-021, BCSL-022

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THE PEOPLE'S UNIVERSITY

SCHOOL OF COMPUTER AND INFORMATION SCIENCES
INDIRA GANDHI NATIONAL OPEN UNIVERSITY
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Important Notes

1. Submit your assignments to the Coordinator of your Study Centre on or before the due date.

2. Assignment submission before due dates is compulsory to become eligible for appearing in corresponding Term End Examinations. For further details, please refer to BCA Programme Guide.

3. To become eligible for appearing the Term End Practical Examination for the lab courses, it is essential to fulfill the minimum attendance requirements as well as submission of assignments (on or before the due date). For further details, please refer to the BCA Programme Guide.

Course Code	:	ECO-02
Course Title	:	Accountancy-1
Assignment Number	:	BCA (II)/02/Assignment/2025-26
Maximum Marks	:	100
Weightage	:	25%
Last Dates for Submission	:	31st October, 2025 (For July Session)
	:	30th April, 2026 (For January Session)

There are five questions in this assignment which carried 100 marks. Answer all the questions. Please go through the guidelines regarding assignments given in the Program Guide for the format of presentation.

Attempt all the questions:

Q1. What is Bank Reconciliation Statement? State the various causes of disagreement between the balance shown by the Cash Book and the Pass Book? Explain how BRS is prepared with an adjusted balance of cash book? **(20 Marks)**

Q2. Give journal entries for the following adjustments and also explain the accounting treatment of these adjustments while preparing the Final Accounts of an Enterprise? **(4x5=20 Marks)**

    a) Outstanding Expenses Rs. 7000

    b) Interest on Capital Rs. 5000

    c) Provision for Bad & Doubtful debts Rs. 6000

    d) Loss of Goods by theft Rs. 6,000

    e) Drawing of Goods by the Proprietor Rs. 11000

Q3. **a)** "Consignment is the same thing as Sale". Discuss. **(10+10 Marks)**

    b) "Joint Venture is a temporary partnership". Comment and explain how is it different from Partnership.

Q4. Discuss the drawbacks of Single Entry System of Accounting. Explain two methods of ascertaining profit when accounting records are incomplete. **(20 Marks)**

Q5. **Differentiate between the following:** **(10+10 Marks)**

    a) 'Receipts and Payments Account' and 'Cash Book'

    b) 'Income & Expenditure Account' and 'Profit & Loss Account'

Course Code	:	**MCS-011**
Course Title	:	**Problem Solving and Programming**
Assignment Number	:	**BCA(II)/011/Assignment/2025-26**
Maximum Marks	:	**100**
Weightage	:	**25%**
Last Dates for Submission	:	**31st October, 2025 (For July Session)**
		30th April, 2026 (For January Session)

There are eight questions in this assignment. Each question carries 10 marks. Rest 20 marks are for viva-voce. Answer all the questions. You may use illustrations and diagrams to enhance the explanations. Please go through the guidelines regarding assignments given in the Programme Guide for the format of presentation.

Q1:

Explain the differences between call-by-value and call-by-reference in C. Write separate C programs to swap two numbers using both approaches and analyze the output. Which approach reflects the changes outside the function and why?

Q2:

Write a C program to calculate the average, highest, and lowest marks obtained by students in a class using an array. Accept n marks from the user and display the results.

Q3:

Write a C program to multiply two matrices A and B (of size N×N) and store the result in matrix C. Also, check whether the result is a diagonal matrix.

Q4:

Without using built-in string functions, write a menu-driven C program using *switch-case* to perform the following on two strings:
(i) Count the number of vowels in each string
(ii) Check whether both strings are palindromes
(iii) Replace a character with another
(iv) Find the frequency of each character

Q5:

Explain dynamic memory allocation in C. Write a C program to dynamically allocate memory to store a list of numbers and then compute their sum and standard deviation. Free the memory after use. Discuss memory management in your explanation.

Q6:

What is a structure in C? Define a structure for an Employee containing emp_id, name, department, and salary. Write functions to:

- Input employee data
- Display all records
- Find employees with the highest salary
- Calculate average salary department-wise

Q7:

Write a C program that reads student records (roll number, name, and marks) from a file, computes the result (pass/fail), and writes the result into another file with appropriate messages. Discuss the file I/O operations used.

Q8:

What are header files in C? Write a C program that uses a macro to convert Celsius to Fahrenheit and vice versa. Use conditional compilation to enable/disable each conversion. Discuss the significance of preprocessor directives.

Course Code	:	MCS-012
Course Title	:	**Computer Organisation and Assembly Language Programming**
Assignment Number	:	**BCA(II)/012/Assignment/2025-26**
Maximum Marks	:	**100**
Weightage	:	**25%**
Last Dates for Submission	:	**31ˢᵗ October, 2025 (For July Session)**
		30ᵗʰ April, 2026 (For January Session)

There are four questions in this assignment, which carry 80 marks. Rest 20 marks are for viva voce. You may use illustrations and diagrams to enhance the explanations. Please go through the guidelines regarding assignments given in the Programme Guide for the format of the presentation. The answer to each part of the question should be confined to about 300 words. Make suitable assumptions, if any.

Question 1:

(a) Please refer to Figure 4 of Unit 1 of Block 1 on page 11 of the Instruction execution example. Assuming a similar machine is to be used for the execution of the following three consecutive instructions:

   LOAD A; Load the content of Memory location A into the Accumulator Register.
   SUBT B; Subtract the content of memory location B from the Accumulator Register.
   STOR C; Stores the content of the Accumulator register to memory location C.

However, this machine is different from the example in Figure 4 in the following ways:

- Each memory word of this new machine is 16 bits long.
- Each instruction is of length 16 bits with 4 bits for the operation code (opcode) and 12 bits for specifying one direct operand. The size of an operand is 16 bits.
- The Main Memory of the machine is of size 2^{12} words.
- The three consecutive instructions are placed starting from memory location $(10F)_h$; operand A is at location $(2FF)_h$ and contains a value $(2AC5)_h$, Operand B is at location $(300)_h$ and contains a value $(1AEE)_h$ and operand C is at location $(301)_h$ and contains a value $(00000)_h$.
- The AC, IR, MAR and MBR registers are of size 16 bits, whereas the PC register is of size 12 bits. The initial content of the PC register is $(10E)_h$.

(i) Draw a diagram showing the Initial State of the machine with the addresses and content of memory locations in hexadecimal. Show only those address locations of the memory that store instructions and data. Also, show the content of all the stated registers.

(2 Marks)

(ii) Draw three more diagrams, each showing the state of the machine after execution of every instruction, viz. LOAD, SUBT and STOR. Show the changes in the values of Registers and memory locations, if any, due to the execution of the instruction. Show all the addresses and values in hexadecimal notation.

(3 Marks)

(b) Perform the following conversion of numbers: **(2 Marks)**
   i)   Decimal $(269785421)_{10}$ to binary and hexadecimal.
   ii) Hexadecimal $(8FACBED34)_h$ into Octal.
   iii) String "lowercase vs UPPERCASE" into UTF-8.
   iv) Octal $(65874531)_O$ into Decimal.

(c) Simplify the following function using K-map: F (A, B, C, D) = Σ (0, 2, 6, 8, 9, 12). Also, draw the circuit for the simplified function using NAND gates. **(2 Marks)**

(d) Consider the Adder-Subtractor circuit as shown in Figure 3.15, page 76 of Block 1. What would be the values of various inputs and outputs, viz. C_{in} input to each full adder, A_0, B_0, A_1, B_1, A_2, B_2, A_3, B_3, S_0, S_1, S_2, S_3, Carry out bit, and overflow condition; if this circuit performs subtraction operation (A-B), when the value of A is 0011 and B is 1111.

(1 Mark)

(e) Explain the functioning of a 4×1 multiplexer with the help of a logic diagram and an example input.

(2 Marks)

(f) Assume that a source data value 1001 was received at a destination as 1000. Show how Hamming's Error-Correcting code bits will be appended to source data to identify and correct the error of one bit at the destination. You may assume that a transmission error has occurred in the source data and not the source parity bits. **(2 Marks)**

(g) Explain the functioning of the JK flip-flop with the help of a logic diagram and characteristic table. Also, explain the excitation table of this flip-flop. **(2 Marks)**

(h) Draw the block diagram of a master-slave flip-flop and explain its functioning.

(2 Marks)

(i) Represent $(321.25)_{10}$ and $(-7.125)_{10}$ in IEEE 754 single-precision and double-precision formats.

(2 Marks)

Question 2:

(a) Refer to the Figure 2(b) on page 8 in Unit 1 of Block 2. Draw the Internal organisation of an 8×4 RAM. Explain all the inputs and outputs of this organisation. Also, answer the following:
(i) How many data input and data output lines does this RAM need? Explain your answer.
(ii)How many address lines are needed for this RAM? Give reasons in support of your answer.

(2 Marks)

(b) A computer has 4 K Word RAM with each memory word of 16 bits. It has cache memory having 8 blocks of size 32 bits (2 memory words). Show how the main memory address $(1A9)_h$ will be mapped to the cache address, if
 (i) Direct cache mapping is used
 (ii) Associative cache mapping is used
 (iii)Two-way set-associative cache mapping is used.
You should show the size of the tag, index, main memory block address and offset in your answer.

(3 Marks)

(c) Define the term Interrupt? Why is an interrupt used in a computer? How is an interrupt handled? Explain with the help of a suitable diagram. **(3 Marks)**

(d) What is an Input/Output processor? What are the uses of the Input/Output processor? Explain the structure of the Input/Output processor/channel with the help of a diagram.

(2 Marks)

(e) Assume that a disk has 64 tracks, with each track having 32 sectors, and each sector is of size 4 M Bytes. The cluster size in this system can be assumed to be 4 sectors. A file having the name *assignmentbca.txt*, of

size 32 MB, is to be stored on this disk. Assume that it is a new disk, and the first 4 clusters are occupied by the Operating System, and the rest of the clusters are free. How can this file be allotted space on this disk? Also, show the content of FAT after the space allocation to this file. You may make suitable assumptions. **(4 Marks)**

(f) Explain the following, giving their uses and advantages/disadvantages, if needed.
(Word limit for the answer of each part is 50 words ONLY) **(6 Marks)**
        (i)   Latency time of the Hard disk
        (ii)   Non-impact Printers
        (iii)   MODEM
        (iv)   Video Memory
        (v)   Colour depth of monitors
        (vi)   Magnetic Tape

Question 3:

(a) A single-core uniprocessor system has 32 general-purpose registers. The machine has a RAM of size 64 KB memory words. The size of every general-purpose register and memory word is 32 bits. The computer uses fixed-length instructions of size 32 bits each. An instruction of the machine can have two operands. One of these operands is a direct memory operand, and the other is a register operand. An instruction of a machine consists of bits for the operation code, bits for the memory operand and bits for the register operand. The machine has 32 different operation codes. The machine also has special-purpose registers, which are other than general-purpose registers. These special-purpose registers are – Program Counter (PC), Memory Address Register (MAR), Data Register (DR) and Flag registers (FR). The first register among the general-purpose registers can be used as the Accumulator Register. The size of Integer operands on the machine may be assumed to be equal to the size of the accumulator register. To execute instructions, the machine has another special-purpose register called the Instruction Register (IR) of size 32 bits, as each instruction is of this size. Perform the following tasks for the machine. (Make and state suitable assumptions, if any.)

(i) Design suitable instruction formats for the machine. Specify the size of different fields that are needed in an instruction format. Also, indicate how many bits of an instruction are unused for this machine. Explain your design of the instruction formats. What would be the size of each register?
(3 Marks)

(ii) Illustrate two valid instructions of the machine by drawing a diagram that shows instructions and related data in registers and memory. **(2 Marks)**

(iii) Assuming that an instruction is first fetched to the Instruction Register (IR), its memory operand is brought to the DR register and the result of an operation is stored in the Accumulator register, write and explain the sequence of micro-operations to fetch and execute a subtraction instruction that subtracts the contents of a memory operand from the contents of a register operand. The result is stored in the accumulator register. Make and state suitable assumptions, if any.
(5 Marks)

(b) Assume that you have a machine, as shown in section 3.2.2 of Block 3, having the set of micro-operations as given in Figure 10 on page 62 of Block 3. Consider that R1 and R2 are both 8-bit registers and contain 10010001 and 00100100, respectively. What will be the values of select inputs, carry-in input, and the result of the operation (including carry-out bit) if the following micro-operations are performed on these registers? (For each micro-operation, you may assume the initial value of R1 and R2 as given above)
(2 Marks)

        (i) Decrement R2
        (ii) Add R1 and R2
        (iii) OR R1 and R2
        (iv) Shift right R1

(c) Consider that an instruction pipeline has three stages, namely instruction fetch and decode (FED), Operand Fetch and Execute (OFX) and store results (STOR). Draw an instruction pipeline diagram showing the execution of five sequential instructions using this pipeline. Explain what problem may occur if the 1st instruction is a conditional jump instruction?

(3 Marks)

(d) Explain the structure and operation of the Wilkes control Unit. Compare the Wilkes control unit and micro-programmed control unit. **(2 Marks)**

(e) What are the characteristics of Reduced Instruction Set Computers (RISC)? What are the uses of a large number of Registers in RISC machines? Explain. **(3 Marks)**

Question 4:

(a) Write a program using 8086 assembly Language (with proper comments) that accepts one digit as input from the keyboard. This digit is converted to its binary equivalent value and stored in the BL register. The program stores the value of BL in the first element of a byte memory array of size 10. It then increments the BL value and stores it in the second location. This process continues, with the BL value being incremented and stored in each subsequent location of the memory array. Make suitable assumptions, if any.

(7 Marks)

(b) What is a FAR procedure call in the 8086 microprocessor? How is it different from a NEAR procedure call in an 8086 microprocessor? Assuming that a stack is used for implementing procedure calls, and three-word parameters are passed to a FAR procedure, explain how they will be passed and accessed in the procedure. You need not write the assembly code but draw the necessary diagrams to illustrate the concept.

(7 Marks)

(c) Explain the following in the context of the 8086 Microprocessor with the help of an example or a diagram:
(6 Marks)
   (i) Explain the use of CS and IP registers for computing the address of an instruction in the memory and SS and SP registers for computing the address of the top of the stack.
   (ii) Explain the use of the following flags - CF, SF, PF, IF
   (iii) Explain the Instructions – LEA, CMP, SHR, RCR

Course Code	:	MCS-015
Course Title	:	**Communication Skills**
Assignment Number	:	**BCA(II)/015/Assignment/2025-26**
Maximum Marks	:	**100**
Weightage	:	**25%**
Last date of submission	:	**31ˢᵗ October, 2025 (For July Session)**
		30ᵗʰ April, 2026 (For January Session)

This assignment has ten questions in this assignment. Answer all questions. You may use illustrations and diagrams to enhance the explanations. Please go through the guidelines regarding assignments given in the Programme Guide for the format of presentation.

Q1. Read the passage below and answer the questions that follow:

Public speaking is an important skill in today's professional world. Whether you are addressing a large audience or participating in a small team meeting, the ability to communicate clearly and confidently can make a significant difference. Many people experience anxiety before speaking publicly, but this fear can be reduced with practice and preparation.

To improve your public speaking skills, it is crucial to understand your audience and tailor your content accordingly. Researching the audience's interests, expectations, and level of knowledge helps you create a more engaging speech. Structuring your speech with a clear introduction, main points, and conclusion enhances its impact.

Rehearsing several times before the actual event is also recommended. You may record your speech and watch it to identify areas for improvement. Additionally, maintaining eye contact, using appropriate gestures, and varying your voice modulation keep the audience attentive.

Public speaking is not only about speaking fluently but also about listening and responding to the audience's reactions. A good speaker remains calm under pressure and adapts to unexpected questions or technical glitches.

Over time, with experience and feedback, anyone can become an effective public speaker.

(a) Why is public speaking considered an important skill today?   **(2 Marks)**
(b) How can knowing your audience help in public speaking?   **(2 Marks)**
(c) What are the benefits of rehearsing a speech before delivery?   **(2 Marks)**
(d) Why is it important to maintain eye contact during a speech?   **(2 Marks)**
(e) Which tip mentioned in the passage do you find most useful, and why?   **(2 Marks)**

Q2. Find words from the passage that mean the same as the following: **(10 Marks)**

   a. Nervousness before a challenging task
   b. Make better
   c. Expected
   d. Adjust or modify
   e. Careful study

Q3. Identify the part of the sentence which is grammatically incorrect:

   a. She sings very well (1), but she (2) don't like to perform (3) in front of (4) large audiences.
   b. If I was (1) you, I would (2) accept the (3) new job offer (4).
   c. My friend enjoys (1) to read novels (2) and watching (3) documentaries (4).
   d. The manager, along with (1) his team, have (2) submitted the (3) final report (4).
   e. There is (1) many reasons (2) why people avoid (3) public speaking (4)

Q4. Rewrite these sentences beginning with the words given below.

   a. Someone has repaired the old building.

      The old building _____

   b. The company will launch the new app next month.

      The new app _____

   c. We expect the guests to arrive soon.

      The guests _____

   d. They requested us to submit the documents on time.

      Please _____

   e. The college organized a workshop on entrepreneurship.

      A workshop _____

Q5. Fill in the blanks with a/an, the or no article Ǿ.

_____ effective speaker needs to understand _____ audience before delivering _____ speech. In _____ preparation stage, it is important to create _____ outline of _____ speech and practice it several times. If _____ speaker has _____ good command over _____ topic, he or she can answer _____ questions confidently. Also, maintaining _____ friendly attitude helps in connecting with _____ audience.

Q6. Write short notes on the following: **(10 Marks)**

(a)   Importance of listening skills in communication

(b)   Handling criticism positively

Q7. Write an essay in 250 to 300 words on **any one** of the following: **(20 Marks)**

- The importance of emotional intelligence in professional life
- Challenges and opportunities of remote work
- The influence of digital media on human relationships

Q8. Mark the stress in the following words: **(10 Marks)**

photograph   photography
economy   economical
favourite   favoritism
record(noun)   record(verb)
conflict(noun)   conflict(verb)

Q9. Write a conversation between you and your friend about how online education has transformed learning methods. Use at least 15 turns. **(10 Marks)**

Q10.   Write a letter to your cousin sharing your experience of attending a professional development workshop. Describe the topics covered, what you learned, and how it will help you in your career. Write in about 150 words. **(10 Marks)**

Course Code	:	MCS-013
Course Title	:	Discrete Mathematics
Assignment Number	:	BCA (II)/013/Assignment/2025-26
Maximum Marks	:	100
Weightage	:	25%
Last Date of Submission	:	31st October, 2025 (for July Session)
		30th April, 2026 (for January Session)

There are eight questions in this assignment, which carries 80 marks. Rest 20 marks are for viva-voce. Answer all the questions. You may use illustrations and diagrams to enhance the explanations. Please go through the guidelines regarding assignments given in the Programme Guide for the format of presentation.

Q1.
(a) What is Set? Explain use of Sets in problem solving. **(3 Marks)**
(b) What is a proper subset ? Write the number of proper subsets of the Set
$\{2, 3, 4, 5, 6, 7, 8, 9\}$ **(2 Marks)**
(c) Make the truth table for the following. **(3 Marks)**
   i) $p \rightarrow \sim (r \wedge q) \wedge (\sim p \vee r)$
   ii) $p \rightarrow (r \vee q) \vee (\sim p \wedge \sim r)$
   iii) $p \rightarrow (r \vee \sim q)$
(d) Give geometric representation for the following. **(2 Marks)**
   i) $\{5, -3) \times (-1, 2)$
   ii) $\{-1, -3) \times (-2, -4)$

Q2.
(a) Draw Venn diagram to represent the following. **(3 Marks)**
   i) $(A \cap B \cup C)$
   ii) $(A \cap B \cap C)$
   iii) $(A \cup B \cup C)$

(b) Write down a suitable mathematical statement that the following symbolic properties can represent.
(2 Marks)

   i) $(\forall x) (\exists y) (\exists z)P$
   ii) $\forall (x) \forall (y) Q$

(c) Show whether $\sqrt 2$ is rational or irrational. **(2 Marks)**
(d) Explain proof by contradiction with the help of an example. **(3 Marks)**

Q3.
(a) Explain use of the inclusion-exclusion principle with an example. **(2 Marks)**
(b) Construct logic circuites for the following Boolean expressions: **(3 Marks)**
   i) $(x+yz) + (yz)' + (z'y)$
   ii) $(x'y) (xz') (y'z) + xyz$

(c) What is a tautology? If P and Q are statements, show whether the statement
$(P \rightarrow Q) \vee (\sim P)$ is a tautology or not. **(3 Marks)**

(d) Explain the symmetric difference of sets with the help of real-life examples. **(2 Marks)**

Q4.

(a) How many words can be formed using the letters of "EXCEPTIONAL", using each letter at most once? **(2 Marks)**

    i) If each letter must be used,

    ii) If some or all the letters may be omitted.

(b) What is a relation? Explain with an example. What are the different types of relations? Explain with an example for each. **(8 Marks)**

Q5.

(a) How many different professional committees of 8 people can be formed, each containing at least 4 Managers, at least 2 Public Servants and 2 IT Professionals from a list of 8 Managers, 6 Public Servants and 8 IT Professionals? **(3 Marks)**

(b) A and B are mutually exclusive events such that P(A) = 1/3 and P(B) = 1/4 .
Find P (A $\cup$ B).What is the probability of P(A $\cap$ B), and why? **(2 Marks)**

(c) What is Pascal's triangle? Explain. **(2 Marks)**

(d) Explain how to find the inverse of a function with the help of an example. **(3 Marks)**

Q6.

(a) How many ways are there to distribute 25 district items into 7 distinct boxes with:

    i) At least three empty boxes.

    ii) No empty box. **(2 Marks)**

(b) Explain properties of Set. **(2 Marks)**

(c) Three Sets A, B and C are: A = {1,7, 8, 9, 13, 15, 17}, B = { 1,2, 3, 4, 5, 6, 8, 9, 10 } and C {1, 2, 3, 5, 7, 9, 10, 11, 13}. Find A $\cup$ B $\cap$ C ; A $\cap$ ~B $\cup$ C; A $\cap$ B $\cup$ C and (A $\cap$ ~C).

(4 Marks)

(d) Explain circular permutation with an example**.** **(2 Marks)**

Q7.

(a) Compare predicate and proposition logic. **(2 Marks)**

(b) What is inductive logic? How is it used in problem-solving? Explain with an example. **(3 Marks)**

(c) What is a function? Explain different types of functions with examples. **(3 Marks)**

(d) Write the following statements in symbolic form: **(2 Marks)**

    (i) Mr. Ravi is thin but healthy.

    (ii) Either do not eat unhealthy food or be ready to visit the doctor.

Q8.

(a) Find the inverse of the following functions   **(3 Marks)**

$$f(x) = \frac{x^2+2}{x-3} \qquad x \neq 3$$

(b) What is a Boolean function? Explain with an example.   **(2 Marks)**

(c) Show for an integer greater than zero $2^n \geq n+1$ **(2 Marks)**

(d) Write the inverse and contrapositive for these sentences: **(3 Marks)**
    (i) If it does not rain, then you will go to market.
    (ii) If you are not honest, you are harmful to society.

Course Code	:	BCSL-021
Course Title	:	C Language Programming
Assignment Number	:	BCA(II)/L-021/Assignment/2025-26
Maximum Marks	:	50
Weightage	:	25%
Last date of Submission	:	31st October, 2025 (for July Session)
		30th April, 2026 (for January Session)

This assignment has only one question. Answer the question. This question carries 40 marks. Rest 10 marks are for viva voce. You may use illustrations and diagrams to enhance the explanation. Please go through the guidelines regarding the assignments given in the programme guide for the format of presentation.

Q1.

Design and implement a **menu-driven program** in C that allows the user to perform operations on a set of student records for BCA students such as adding a new record, displaying all records, searching a student by roll number, modifying details, and deleting a record. The program should be implemented using **main()** and user-defined functions for each operation.

(40 Marks)

Description:

Menu should be as follows:

------ **Student Record Management** ------

1. Add New Student

2. Display All Students

3. Search Student by Roll Number

4. Modify Student Record

5. Delete Student Record

6. Exit

Enter your choice:

Implement the following functions:

Function Name	Description
void addStudent();	Adds a new student record
void displayStudents();	Displays all student records
void searchStudent();	Searches for a student by roll number
void modifyStudent();	Modifies details of an existing student
void deleteStudent();	Deletes a student record

Note: You must execute the program and submit the program logic, sample input and output along with the necessary documentation for this practical question. Assumptions can be made wherever necessary.

Course Code	**:**	**BCSL-022**
Course Title	**:**	**Assembly Language Programming Lab**
Assignment Number	**:**	**BCA(II)/L-022/Assignment/2025-26**
Maximum Marks	**:**	**50**
Weightage	**:**	**25%**
Last Dates for Submission	**:**	**31st October, 2025 (For July Session)**
		30th April, 2026 (For January Session)

This assignment has five questions of total of 40 marks, each question carries equal marks. Rest 10 marks are for viva voce. Please go through the guidelines regarding assignments given in the programme guide for the format of presentation.

Q1. Write and run a program using 8086 assembly language that interchanges the values stored in two memory locations. Make suitable assumptions, if any.

Q2. Write and run a program using 8086 assembly language that calculates the sum and difference of two values stored in the memory locations.

Q3. 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.

Q4. Write and run a program using 8086 assembly language that prints the ASCII character for a 8-bit value stored in BL register.

Q5. 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.