

B.Sc. 1st Semester Examination, 2023-24**COMPUTER SCIENCE**

Course ID : 11511 Course Code : S/CSC/101/MJC-1

Course Title : Introduction to Programming with C

[NEP–Major]

Time : 1 Hour 15 Minutes

Full Marks : 25

*The figures in the right margin indicate marks.**Candidates are required to answer in their own words as far as practicable.***UNIT-I**1. Answer **any five** from the following questions:

5×1=5

- What is preprocessor directive? Give example.
- Write for loop to print from 10 to 1.
- Write differences between recursion and iteration.
- Why is it necessary to give the size of an array in an array declaration?
- How can we pass a whole array to functions?
- How an array name related with a pointer variable?

- What do you mean by dangling pointer?
- Can main () function be called recursively.

UNIT-II2. Answer **any two** from the following questions:

2×5=10

- Write a recursive C program to calculate factorial value of a given integer. Write differences between break and continue statements in C. 3+2=5
- Explain differences between call by value and call by reference with suitable example. Differentiate between while loop and do-while loop. 4+1=5
- What is switch case statement? How does it differ from if-else if- -else statement? What is the difference between a long integer and a short integer variable? 2+2+1=5
- What are the uses of pointer? Write a program in C to swap two integers using pointer. 2+3=5

UNIT-III

3. Answer **any one** from the following questions:

$$1 \times 10 = 10$$

- a) Write a C program to multiply two matrices of suitable size. Write a C function to compare two strings (case sensitively). Write differences between strcmp () and stricmp ()

$$6 + 3 + 1 = 10$$

- b) What is a File? What are the different opening modes of a file? Write a program in C to generate the first 10 Fibonacci numbers and write those in a file.

$$1 + 2 + (4 + 3) = 10$$

B.Sc. 1st Semester Examination, 2023-24**COMPUTER SCIENCE**

Course UD : 11512 Course Code : S/CSC/102/MN-2

Course Title : Introduction to Programming with C

[NEP–Minor]

Time : 1 Hour 15 Minutes

Full Marks : 25

*The figures in the right margin indicate marks.**Candidates are required to answer in their own words as far as practicable.***UNIT-I**1. Answer **any five** from the following questions:

5×1=5

- Define variable? Give example.
- Write for loop to print odd integers from 15 to 5.
- What is recursion?
- What is array?
- What is pointer variable?
- What is the difference between “+” and “++” operator? Give examples.
- Write one major difference between structure and array?
- What is static variable?

*[Turn Over]***UNIT-II**2. Answer **any two** from the following questions:

2×5=10

- Write a C program to calculate GCD of two integers. Write differences between break and continue statements in C. 3+2=5
- What is function? Explain differences between call by value and call by reference with suitable example. 1+4=5
- Write a C program to calculate average of 100 numbers. (Use array in your program.) What is the similarity between structure, union and enumeration? 3+2=5
- Write a function in C to check whether a number is palindrome number or not. Hence write a program to print all three digit palindrome numbers. 3+2=5

UNIT-III3. Answer **any one** from the following questions:

1×10=10

- Name the basic data types available in C. What is meant by associativity of operators? Write a suitable C program to explain the use of

continue statement. What is infinite loop?
Explain. $2+2+4+2=10$

- b) Write a C program to interchange values of two variables without using a 3rd variable. What do you mean by dynamic memory allocation? What is the data type of a pointer variable? Write the statements to create an array of pointers and pointer to an array. $4+3+1+2$
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B.Sc. 1st Semester Examination, 2023-24**COMPUTER SCIENCE**

Course UD : 11513 Course Code : S/CSC/103/MD-1

Course Title : Computer Fundamentals

[NEP-Multidisciplinary]

Time : 2 Hours

Full Marks : 40

*The figures in the right margin indicate marks.**Candidates are required to answer in their own words as far as practicable.***UNIT-I**1. Answer **any five** from the following questions:

5×2=10

- State one different between data and information.
- Name the two components of a CPU.
- What is cache memory?
- What is the function of OCR?
- What is the radix of a number system?
- Write the full form of GUI & CUI.
- Give example of single user OS and multiuser OS.
- What is SMPS?

*[Turn Over]***UNIT-II**2. Answer **any four** from the following questions:

4×5=20

- Write short note about:
 - CPU
 - OMR
- Write difference between primary and secondary memory.(at least three)
 - What is operating system? Give example (two)
- Explain the meaning of the terms 'multiprocessing' 'operating system' and 'multitasking operating system'. What is the full form of USB?
- $(402)_{10} \rightarrow (?)_8$
 - $(AB)_{16} \rightarrow (?)_{10}$
- Add the following:
 - $(DA2B)_{16} + (ACT)_{16}$
 - $(110011)_2 + (10101)_2$
- Discuss the different types of ROM.

UNIT-III

3. Answer **any one** from the following questions:

1×10=10

a) i) Discuss different types of printers with example.

ii) Discuss third and fourth generation computer. 5+5

b) What is bus? Discuss different types of bus in computer system. 2+8

B.Sc. 1st Semester Examination, 2023-24

COMPUTER SCIENCE

Course ID : 11522 Course Code : S/CSC/102/MN-2

**Course Title : Introduction to Programming with C
(Practical)**

[NEP-Minor]

Time : 2 Hours

Full Marks : 15

The figures in the right margin indicate marks.

Perform one experiment.

[Experiment : 10, Viva: 05]

1. WAP to print the sum of digits of an integer.
2. WAP to display Fibonacci series using recursion.
3. WAP to reverse a string.
4. WAP to compute the sum of the first n terms of the following series
 $S = 1 + 1/2 + 1/3 + 1/4 + \dots$
5. Write a program to check whether a given no is prime or not.
6. WAP to copy the contents of one text file to another file, after removing all whitespaces.
7. WAP to compute the factors of a given number.
8. Write a menu driven program to implement a simple calculator.

B.Sc. 1st Semester Examination, 2023-24**COMPUTER SCIENCE****Course ID : 11524 Course Code : S/CSC/104/SEC-1****Course Title : PC Software Laboratory (Practical)****[NEP-Skill Enhancement Course]**

Time : 3 Hours

Full Marks : 40

*The figures in the right margin indicate marks.***Problem=2×17=34, LNB+Viva voce=06****Answer any one from each group.****UNIT-I**1. Answer any **one** from the following questions:

17×1=17

- A) Create a presentation about your college (at least 6 slides), each slide appear different background and different animation effect.
- B) Create a presentation about computer Generation; the presentation should contain 5 slides, one for each generation. The text should appear flying in different slide show. Give different background design (for each slide) and insert page number.
- C) Create your Bio-data in MS WORD.

[Turn Over]

D) Using Mail Merge in MS Word, write the following letter and send it to five of your friends.

Dear <name>

You are cordially invited on my birthday celebration party to be held on 15th March, 2024.

Yours ever

Your name

UNIT-II2. Answer any **one** from the following questions:

17×1=17

A) Create the following table having a heading "Electricity bill" n the MS-EXCEL worksheet:

Consumer no	Unit consumed	Unit price	Bill amount (Rs)	Remarks
C001	120	5.50		
C002	170	5.50		
C003	740	5.50		
C004	2500	5.50		
C005	1580	5.50		

Find out the bill amount of the customers using formula.

Bill amount range (Rs.) → Remarks

More than 10000 → 'ultra high'

5000 to 10000 → 'very high'

1000 to 4999 → 'high'

500 to 999 → 'low'

Less than 500 → 'very low'

According to the above given conditions fill up the 'Remarks' column using formula.

- B) Make the following table in MS-Excel worksheet. Give a heading of the table as Mobile Phone Details and find the followings:

Brand Name	Model No.	Unit price(RS.)	Handset Type
Redmi	R-1011	11000	GSM
SAMSUNG	S-1041	25000	CDMA
JIO	R-250	5000	CDMA
APPLE	I-2062	40000	GSM
POCO	P-521	18000	GSM
LG	L650	10000	CDMA
TOTAL PRICE	?		
HIGHEST PRICE	?		
LOWEST PRICE	?		

I) Find out total price, highest price, and lowest price using suitable formula

II) List out all records of CDMA Type handset.

III) Sort record as per price (highest to lowest).

IV) Create a column chart using brand name and price.

- C) Create a table in MS Access

Table- Hospital

```
{  
Doctor_id                text  
Doctor_name              text  
Specialization           text  
D_o_o_i                  date  
}
```

Insert 5 records in Hospital table.

Create a report using wizard where show all records of doctor name and Specialization.

D) Create tables in MS Access

Table: STUDENT

{

Roll_no numeric primary key

Name text (30)

D_O_B date

Class text (5)

}

Table: MARKS

{

Roll_no numeric

Eng numeric

Beng numeric

Math numeric

Phy numeric

Chemistry numeric

}

- a) insert five records in both tables.
- b) Create relationship between two tables.
- c) Show the roll_no, name, Total_marks using query.

B.Sc. 1st Semester (Honours) Examination, 2023-24
COMPUTER SCIENCE

Course ID : 11511 Course Code : SH-CSC-101/C-1
Course Title : Programming Fundamentals using C/C++
[Old CBCS Syllabus 2017-18]

Time : 1 Hour 15 Minutes Full Marks : 25
The figures in the right margin indicate marks.
Candidates are required to answer in their own
words as far as practicable.

UNIT-I

1. Answer **any five** from the following questions: 5×1=5
- a) What is class?
 - b) Write for loop to print from 10 to 1.
 - c) Write differences between recursion and iteration.
 - d) Why is it necessary to give the size of an array in an array declaration?
 - e) How can we pass a whole array to functions?
 - f) How an array name related with a pointer variable?
 - g) Explain differences between pre-increment and post-increment operator with help of an example.
 - h) Write one difference between OOPS and POOPS.

UNIT-II

2. Answer **any two** from the following questions: 2×5=10
- a) Write a recursive C program to calculate

factorial value of a given integer. Write differences between break and continue statements in C. 3+2=5

- b) Explain differences between call by value and call by reference with suitable example. Differentiate between while loop and do-while loop. 4+1=5
- c) What is switch case statement? How does it differ from if-else if-... else statement? What is the difference between a long integer and a short integer variable? 2+2+1=5
- d) What are the differences between static memory allocation and dynamic memory allocation? Write declarations for array of pointers and pointer to an array. When realloc() function is useful? 2+2+1=5

UNIT-III

3. Answer **any one** from the following questions: 1×10=10
- a) Write a C program to multiply two matrices of suitable size. Write a C function to compare two strings (case sensitively). Write differences between strcmp () and stricmp (). 6+3+1=10
 - b) Write a C++ program to implement banking system. Use suitable functions in your program. 10

B.Sc. 1st Semester (Honours) Examination, 2023-24**COMPUTER SCIENCE**

Course ID : 11511 Course Code : SH-CSC-101/C-1

Course Title : Programming Fundamentals using C

[Old CBCS Syllabus 2022-23]

Time : 1 Hour 15 Minutes

Full Marks : 25

*The figures in the right margin indicate marks.**Candidates are required to answer in their own words as far as practicable.***UNIT-I**1. Answer **any five** from the following questions:

5×1=5

- What is macro? Give example.
- Write for loop to print multiples of 3 from 99 to 3.
- What do you mean by iteration?
- What is it necessary to give the size of an array in an array declaration?
- How can we pass a whole array to functions?
- Can we use negative index to an array?
- Explain differences between pre-increment and post-increment operator with help of an example.
- Can main () function be called recursively.

UNIT-II2. Answer **any two** from the following questions:

2×5=10

- Write a recursive C program to calculate GCD

of two integers. Write differences between break and continue statements in C. 3+2=5

- Explain differences between formal argument and actual argument with suitable example. Differentiate between while loop and do-while loop. 4+1=5
- What is switch case statement? How does it differ from if-else if- else statement? What is the difference between a long integer and a short integer variable? 2+2+1=5
- What are the differences between static memory allocation and dynamic memory allocation? Write declarations for array of pointers and pointer to an array. What is the data type of a pointer variable? 2+2+1=5

UNIT-III3. Answer **any one** from the following questions:

1×10=10

- Write a C program to check whether a given string is palindrome or not. Write a C function to compare two strings (case sensitively). Write differences between strcmp () and stricmp (). 6+3+1=10
- What is structure? Can a structure contain pointer to itself? Write a C program to separately create files of odd numbers and even numbers from a source file containing both types of numbers. What is the purpose of rewind ()? 2+1+6+1=10

B.Sc. 1st Semester (Honours) Examination, 2023-24

COMPUTER SCIENCE

Course ID : 11512 Course Code : SH-CSC-102/C-2

Course Title : Computer System Architecture

[Old Syllabus 2017-18]

Time : 1 Hour 15 Minutes Full Marks : 25

The figures in the right margin indicate marks.

Candidates are required to answer in their own words as far as practicable.

UNIT-I

1. Answer **any five** from the following questions:

5×1=5

- a) Define instruction cycle.
- b) Define sequential circuit.
- c) Represent the decimal number 302.15 to binary.
- d) Why is DMA?
- e) Define Address bus.
- f) What is PROM?
- g) Write down the name of different types of memory.
- h) What is DeMUX?

UNIT-II

2. Answer **any two** from the following questions:

2×5=10

- a) Design D flip-flop
- b) Write short note on Octal to decimal converter.
- c) Design a full-subtractor.
- d) Write short notes on different types of Data Bus.

UNIT-III

3. Answer **any one** from the following questions:

1×10=10

- a) Implement a full-adder circuit. Obtain the simplified expression of the function
 $F(w, x, y, z) = \Sigma(2, 3, 6, 7, 8, 9, 10, 11, 13).$
5+5
- b) Discuss with a block diagram how Direct Memory Access takes place. Design 3-bit odd parity generator. 5+5

B.Sc. 1st Semester (Honours) Examination, 2023-24

COMPUTER SCIENCE

Course ID : 11512 Course Code : SH-CSC-102/C-2

**Course Title : Computer System Organization and
Architecture**

[Old Syllabus 2022-23]

Time : 1 Hour 15 Minutes

Full Marks : 25

The figures in the right margin indicate marks.

*Candidates are required to answer in their own
words as far as practicable.*

UNIT-I

1. Answer **any five** from the following questions:

5×1=5

- Write down the truth table of XOR gate.
- Define sequential circuit.
- Represent the decimal number 302.19 to binary.
- Why is DMA?
- Define Address bus.
- What is PROM?
- Write down the name of different types of memory.
- What is MUX?

[Turn Over]

UNIT-II

2. Answer **any two** from the following questions:

2×5=10

- Design T flip-flop.
- Write short note on Octal to decimal converter.
- Design a half-subtractor.
- Write short notes on different types of Data Bus.

UNIT-III

3. Answer **any one** from the following questions:

1×10=10

- Implement a full-adder circuit. Obtain the simplified expression of the function
 $F(w, x, y, z) = \Sigma(2, 3, 6, 7, 8, 9, 10, 11, 13)$.
- Discuss with a block diagram how Direct Memory Access takes place. Write short notes on different types of System Bus.

B.Sc. 1st Semester (Honours) Examination, 2023-24

COMPUTER SCIENCE

Course UD : 11514 Course Code : SH-CSC-103/GE-1

Course Title : Computer Fundamentals

[Old Syllabus 2017-18]

Time : 1 Hour 15 Minutes Full Marks : 25

The figures in the right margin indicate marks.

Candidates are required to answer in their own words as far as practicable.

UNIT-I

1. Answer **any five** from the following questions:

5×1=5

- a) Write down two characteristics of a computer.
- b) Write the full form of CU, ALU, RAM & ROM.
- c) Differentiate between primary and secondary memory.
- d) Explain the difference between hardware and software.
- e) What is CPU?
- f) What is an operating system?
- g) Explain the difference between system software and application software.
- h) What is a file?

UNIT-II

2. Answer **any two** from the following questions:

2×5=10

- a) Describe the generations of a computer.
- b) Draw a block diagram to illustrate the basic functional units of a computer and explain the functions.
- c) What is flowchart? How does a flowchart help a programmer?
- d) What is computer network? How it is useful?

UNIT-III

3. Answer any **one** from the following questions:

1×10=10

- a) Write short notes on:
 - i) GUI
 - ii) CLI
 - iii) Internet and
 - iv) Firmware
- b) Explain memory system and briefly discuss about main memory.

B.Sc. 1st Semester (Honours) Examination, 2023-24**COMPUTER SCIENCE****Course ID : 11514 Course Code : SH-CSC-103/GE-1****Course Title : Introduction to Programming****[Old Syllabus 2022-23]**

Time : 1 Hour 15 Minutes

Full Marks : 25

*The figures in the right margin indicate marks.**Candidates are required to answer in their own words as far as practicable.***UNIT-I**1. Answer **any five** from the following questions:

5×1=5

- a) Write two important usage of computer in real world.
- b) What are the 4 main types of computer?
- c) Write two differences between RAM and ROM.
- d) Give examples of some secondary memory.
- e) What do you mean by flowchart?
- f) Why C is called a mid-level programming language?
- g) What is the difference between an interpreter and a compiler?

- h) Write the name of the various data types we use in C.

UNIT-II2. Answer **any two** from the following questions:

2×5=10

- a) Describe the generations of computer.
- b) What do you mean by scope of a variable in C? Give proper example.
- c) What are the differences between the local and global variables in C?
- d) Define for loop and while loop with proper example.

UNIT-III3. Answer any **one** from the following questions:

1×10=10

- a) Write a C program to check whether a number is prime or not, the input should taken from the user.
- b) Write short notes of the given functions with suitable example.
 - i) Printf()
 - ii) Scanf()
 - iii) Calloc()
 - iv) Malloc()

B.Sc. 1st Semester (Programme) Examination, 2023-24

COMPUTER SCIENCE

Course ID : 11518 Course Code : SP/CSC/101/C-1A

Course Title : Computers and Problem Solving

[Old CBCS Syllabus 2022-23]

Time : 1 Hour 15 Minutes

Full Marks : 25

The figures in the right margin indicate marks.

Candidates are required to answer in their own words as far as practicable.

UNIT-I

1. Answer **any five** from the following questions:

5×1=5

- Define algorithm and flowchart.
- What do you mean by top down programming?
- Write characteristics of 5th generation of computers.
- Give example of input and output devices.
- What is tuple in python programming?
- What is module in python? give example.
- What is interpreter? Give example.
- What is the syntax of 'while' loop in python.

[Turn Over]

UNIT-II

2. Answer **any two** from the following questions:

2×5=10

- Write a python program to find the factorial of a number.
- Explain difference between for loop and while loop in python.
- Draw a flowchart to find the largest among three numbers.
- Write difference between primary memory and secondary memory with example.

UNIT-III

3. Answer **any one** from the following questions:

1×10=10

- Draw the basic architecture of modern computer and explain each part.
- Write Python program to check whether a given number is print or not. Also write a program to print the following structure.

```
*
*  *
*  *
*  *  *
```

COMPUTER SCIENCE

Course ID : 11518 Course Code : SP/CSC/101/C-1A

Course Title : Problem solving using Computers

[Old CBCS Syllabus 2017-18]

Time : 1 Hour 15 Minutes Full Marks : 25

The figures in the right margin indicate marks.

Candidates are required to answer in their own words as far as practicable.

UNIT-I

1. Answer **any five** from the following questions:

1×5=5

- a) Define algorithm and flowchart.
- b) What do you mean by top down programming.
- c) Write characteristics of 5th generation of computers.
- d) Give example of input and output devices.
- e) What is tuple in python programming?
- f) What is module in python? Give example.
- g) What is interpreter? Give example.
- h) What is the syntax of 'while' loop in python.

UNIT-II

2. Answer **any two** from the following questions:

2×5=10

- a) Write a python program to find the factorial of a number.
- b) Explain difference between for loop and while loop in python.
- c) Draw a flowchart to find the largest among three numbers.
- d) Write difference between primary memory and secondary memory with example.

UNIT-III

3. Answer **any one** from the following questions:

1×10=10

- a) Draw the basic architecture of modern computer and explain each part.
- b) Write Python program to check whether a given number is print or not. Also write a program to print the following structure.

```
*  
*  *  
*  *  *  
*  *  *  *
```

B.Sc. 1st Semester (Honours) Examination, 2023-24

COMPUTER SCIENCE

Course ID : 11521 Course Code : SH/CSC/101/C-1

Course Title : Programming Fundamentals using C

[Old Syllabus 2022-23]

Course Title : Programming Fundamentals using C/C++

[Old Syllabus 2017-18]

(PRACTICAL)

Time : 2 Hours

Full Marks : 15

The figures in the right margin indicate marks.

Perform one experiment.

[Experiment: 10, Viva: 05]

1. WAP to calculate LCM of two given numbers.
2. WAP to check whether a given number is Ramanujan number or not.
3. WAP to check whether a given number is Fibonacci number or not..
4. WAP to check whether a given number is prime or not.
5. WAP to concatenate two strings.
6. WAP to sort an array of integers.

7. WAP to find out the maximum number from an array of integers.
8. WAP to calculate the no of characters in a file.
9. WAP to add two matrices 01° same size (use 2-dimensional array).
10. WAP to check whether a string is palindrome or not.

B.Sc. 1st Semester (Honours) Examination, 2023-24

COMPUTER SCIENCE

Course ID : 11522 Course Code : SH/CSC/102/C-2

**Course Title : Computer System Organization and
Architecture (Practical)**

[Old Syllabus 2022-23]

Time : 2 Hours

Full Marks : 15

The figures in the right margin indicate marks.

Problem=10, LNB + Viva = 5 Marks

Answer any **one** of the following questions: 10

1. Implement Full-Adder using NAND gates.
2. Implement XOR gate using NAND gates.
3. Implement a 4-bit Binary Adder using IC 7483.
4. Implement 8×1 MUX using IC 74153.
5. Implement S-R Flip-Flop using NAND gates.
6. Implement Full-Subtractor using NAND gates.
7. Implement J-K Flip-Flop using NAND gates.
8. Implement the function $F = ABC+DEF$ using IC 7411.
9. Implement a Half-Adder using NAND gates.
10. Implement a 2-bit Comparator using Basic gates.

[Turn Over]

B.Sc. 1st Semester (Honours) Examination, 2023-24

COMPUTER SCIENCE

Course ID : 11522 Course Code : SH/CSC/102/C-2

Course Title : Computer System Architecture (Practical)

[Old Syllabus 2017-18]

Time : 2 Hours

Full Marks : 15

The figures in the right margin indicate marks.

Problem=10, LNB + Viva = 5 Marks

Answer any **one** of the following questions: 10

1. Implement Full-Adder using NAND gates.
2. Implement XOR gate using NAND gates.
3. Implement a 4-bit Binary Adder using IC 7483.
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5. Implement S-R Flip-Flop using NAND gates.
6. Implement Full-Subtractor using NAND gates.
7. Implement J-K Flip-Flop using NAND gates.
8. Implement the function $F = ABC+DEF$ using IC 7411.
9. Implement a Half-Adder using NAND gates.
10. Implement a 2-bit Comparator using Basic gates.

102/Comp. Sc(C)/PR (2)

B.Sc. 1st Semester (Honours) Examination, 2023-24

COMPUTER SCIENCE

Course ID : 11522 Course Code : SH/CSC/102/C-2

**Course Title : Computer System Organization and
Architecture (Practical)**

[Old Syllabus 2022-23]

Time : 2 Hours

Full Marks : 15

The figures in the right margin indicate marks.

Problem=10, LNB + Viva = 5 Marks

Answer any **one** of the following questions: 10

1. Implement Full-Adder using NAND gates.
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3. Implement a 4-bit Binary Adder using IC 7483.
4. Implement 8×1 MUX using IC 74153.
5. Implement S-R Flip-Flop using NAND gates.
6. Implement Full-Subtractor using NAND gates.
7. Implement J-K Flip-Flop using NAND gates.
8. Implement the function $F = ABC+DEF$ using IC 7411.
9. Implement a Half-Adder using NAND gates.
10. Implement a 2-bit Comparator using Basic gates.

[Turn Over]

B.Sc. 1st Semester (Honours) Examination, 2023-24

COMPUTER SCIENCE

Course ID : 11522 Course Code : SH/CSC/102/C-2

Course Title : Computer System Architecture (Practical)

[Old Syllabus 2017-18]

Time : 2 Hours

Full Marks : 15

The figures in the right margin indicate marks.

Problem=10, LNB + Viva = 5 Marks

Answer any **one** of the following questions: 10

1. Implement Full-Adder using NAND gates.
2. Implement XOR gate using NAND gates.
3. Implement a 4-bit Binary Adder using IC 7483.
4. Implement 8×1 MUX using IC 74153.
5. Implement S-R Flip-Flop using NAND gates.
6. Implement Full-Subtractor using NAND gates.
7. Implement J-K Flip-Flop using NAND gates.
8. Implement the function $F = ABC+DEF$ using IC 7411.
9. Implement a Half-Adder using NAND gates.
10. Implement a 2-bit Comparator using Basic gates.

102/Comp. Sc(C)/PR (2)

4. The following table gives year wise sale figure of five salesmen in Rs.

Salesman	2000	2001	2002	2003
S1	10000	12000	20000	50000
S2	15000	18000	50000	60000
S3	20000	22000	70000	70000
S4	30000	30000	100000	80000
S5	40000	45000	125000	90000

- Calculate total sale year wise.
- Calculate the net sale made by each salesman
- Calculate the maximum sale made by the salesman
- Calculate the commission for each salesman under the condition.
 - If total sales $>4,00,000$ give 5% commission on total sale made by the salesman.
 - Otherwise give 2% commission.
- Draw a bar graph representing the sale made by each salesman. (f)
Draw a pie graph representing the sale made by salesman in 2000.

5. Enter the following data in Excel Sheet

Total Revenue Earned For Sam's Bookstall

Publisher name	1997	1998	1999	2000	Total
A	Rs.1,000.00	Rs.1100.00	Rs.1,300.00	Rs.800.00	
B	Rs.1,500.00	Rs.700.00	Rs. 1,000.00	Rs.2,000.00	
C	Rs.700.00	Rs. 900.00	Rs. 1,500.00	Rs. 600.00	
D	Rs.1,200.00	Rs.500.00	Rs.200.00	Rs.1,100.00	
E	Rs.800.00	Rs.1,000.00	Rs.3,000.00	Rs.5600.00	

- Compute the total revenue earned.
- Plot the line chart to compare the revenue of all publisher for 4 years.
- Chart Title should be Total Revenue of Sam's Bookstall (1997-2000)
- Give appropriate categories and value axis title.

B.Sc. 1st Semester (Honours) Examination, 2023-24**COMPUTER SCIENCE****Course ID : 11524 Course Code : SH/CSC/103/GE-1****Course Title : Introduction to Programming (Practical)****[Old Syllabus 2022-23]**

Time : 2 Hours

Full Marks : 15

*The figures in the right margin indicate marks.***Problem=10, LNB+Viva voce=05**

1. Answer any **one** of the questions: $10 \times 1 = 10$
- a) WAP to print the sum and product of digits of an integer
 - b) WAP to reverse a number.
 - c) WAP to compute the sum of the first n terms of the following series
 $S = 1 + 1/2 + 1/3 + 1/4 + \dots$
 - d) WAP to compute the sum of the first n terms of the following series
 $S = 1 - 2 + 3 - 4 + 5 + \dots$
 - e) Write a function that checks whether a given

string is Palindrome or not. Use this function to find whether the string entered by user is Palindrome or not.

- f) Write a function to find whether a given no is prime or not. Use the same to generate the prime numbers less than 100.
- g) WAP to compute the factors of a given number.

B.Sc. 1st Semester (Programme) Examination, 2023-24

COMPUTER SCIENCE

Course ID : 11528 Course Code : SP/CSC/101/C-1A

Course Title :Computers and Problem Solving (Practical)

[Old Syllabus 2022-23]

Time : 2 Hours

Full Marks : 15

The figures in the right margin indicate marks.

Problem=10, LNB+Viva voce=05

Answer any **one** from the following questions:

10×1=10

- Write a Python program to construct the following pattern for n number of lines, using a nested for loop.

```
*
**
***
****
*****
```

- Write a program that reads an year(integer) value and prints —leap year or —not a leap year.

- Write a python program to check whether a given number is prime or not.
- Write a function that takes an integer n as input and calculates the value of
 $1 - 2 + 3 - 4 + 5 + \dots n.$
- Write a program to generate Fibonacci series up to n terms.
- Write a program to print prime factors of a given number.

COMPUTER SCIENCE

Course ID : 11528 Course Code : SP/CSC/101/C-1A

Course Title : Problem solving using Computers (Practical)
[Old Syllabus 2017-18]

Time : 2 Hours Full Marks : 15

The figures in the right margin indicate marks.

Problem=10, LNB+Viva voce=05

Answer any **one** from the following questions:

10×1=10

1. Write a Python program to construct the following pattern for n number of lines. using a nested for loop.

```
*  
**  
***  
****  
*****
```

2. Write a program that reads an year(integer) value and prints —leap year or —not a leap year.
3. Write a python program to check Whether a given number is prime or not.

4. Write a function that takes an integer n as input and calculates the value of
 $1 - 2 + 3 - 4 + 5 + \dots n.$
5. Write a program to generate Fibonacci series up to n terms.
6. Write a program to print prime factors of a given number.
