

**Computer Science [MAJOR]  
[NEP-CBCS]**

**B.Sc. First Semester End Examination-2023  
PAPER-COSH-MJ101T  
[Programming in C/C++]**

*Full Marks: 40*

*Time: 02 Hrs*

*The figures in the right hand margin indicate marks.*

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

*Illustrate the answers wherever necessary.*

**Group A**

**1) Answer any FIVE questions of the following: 5x2= 10**

- i) What is increment operator? Which of the following statement is different and why?  $x = x + 1$ ; or  $x ++$
- ii) State the use of scope resolution operator and its use in C++.
- iii) What is friend function?
- iv) What is data type? What are the data types used in C language
- v) What do you mean by class and object?
- vi) Explain actual argument and formal argument.
- vii) Write the advantages of using recursion.
- viii) What do you mean by polymorphism? Give an example.

(2)

**Group B**

Answer any FOUR questions of the following: 4x5 = 20

2) What is conditional operator? What will be the output of the following statement?

$a = b > c ? c > d ? 12 : d > e ? 100 : 200 : 300$  ; in each of the following case:

i)  $a = 15, c = 10, d = e = 9$

ii)  $b = c = 19, d = 10, e = 16$  2+2

3) What is inline function? Why it is used in C++? 3+1

4) What is function overloading? What is the need of overloading operators and functions in C++? 3+1

5) What is inheritance in C++? Write the names of different types of inheritance. Describe the multi level and multiple inheritance in C++. 1+1+2

6) What is constructor? Write a program to explain copy constructor.

7) What is inheritance? Write about the different types of inheritance.

**Group C**

Answer any ONE question of the following: 1x10 = 10

8) i) What is C storage class? Explain static and register storage class with suitable examples.

(3)

ii) What is macro? Differentiate between the macros and the functions in C. (2+2+2)+(2+2)

9) What is 2D array?

Write a C program to perform matrix multiplication using 2D array 2+8

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