

(FOR THE CANDIDATES ADMITTED
DURING THE ACADEMIC YEAR 2023 ONLY)

23UMS5E1

REG.NO. :

N.G.M.COLLEGE (AUTONOMOUS) : POLLACHI
END-OF-SEMESTER EXAMINATIONS : NOVEMBER-2025

B.Sc.-MATHEMATICS
SEMESTER: V

MAXIMUM MARKS: 75
TIME : 3 HOURS

PART - III
OOP with C++
SECTION – A

(10 X 1 = 10 MARKS)

ANSWER THE FOLLOWING QUESTIONS.

MULTIPLE CHOICE QUESTIONS.

(K1)

1. C++ cannot be used to develop _____.
a) database b) compiler c) editor d) toolkit
2. In C++, the main() returns a value of type _____ in the operating system.
a) int b) float c) char d) double
3. By default, class members are _____.
a) public b) private c) static d) constant
4. The keyword for operator overloading is _____.
a) vector b) friend c) operator d) op
5. The dereference operator is _____.
a) & b) * c) .* d) - >

ANSWER THE FOLLOWING IN ONE (OR) TWO SENTENCES

(K2)

6. Write the general format of structure.
7. Write any one of the limitations of C structure.
8. Write any one of the properties of static functions.
9. List all the types of inheritance.
10. How do we declare pointer variables?

SECTION – B

(5 X 5 = 25 MARKS)

ANSWER EITHER (a) OR (b) IN EACH OF THE FOLLOWING QUESTIONS. (K3)

11. a) Write a C++ program that displays the average of two numbers.
(OR)
b) Describe the types of storage classes.
- 12.a) Describe the inline functions with example.
(OR)
b) Describe the process of defining a member function of a class.

(CONTD.....2)

(2)

13.a) Explain that we can pass class objects as function arguments with the help of an example.
(OR)

b) Write a C++ program that demonstrates the use of overloaded constructors.

14.a) Write a C++ program that implements the overloading '+' operator.
(OR)

b) Describe multiple inheritance with example.

15.a) Write a C++ program that illustrates the arithmetic operations on pointers.
(OR)

b) How is polymorphism achieved at compile time and run time?

SECTION – C

(5 X 8 = 40 MARKS)

ANSWER EITHER (a) OR (b) IN EACH OF THE FOLLOWING QUESTIONS.

(K4 (Or) K5)

16. a) Discuss the expressions and their types in C++.
(OR)

b) Classify the control structures in C++.

17. a) Discuss the function overloading with example.
(OR)

b) What do you mean by friend function. Point out the characteristics of friend function.

18. a) How will you specify a class with example?
(OR)

b) Write a C++ program for constructing the matrix using class objects.

19. a) Write a C++ program for illustrating the application of overloaded operators to strings.
(OR)

b) Discuss the constructors in derived classes.

20.a) Discuss 'this' pointer with example.
(OR)

b) Explain the basic rules and compiler requirements for virtual functions.

ETHICAL PAPER