

(FOR THE CANDIDATES ADMITTED

25UCS101

DURING THE ACADEMIC YEAR 2025

ONLY)

REG.NO. :

N.G.M.COLLEGE (AUTONOMOUS) : POLLACHI

END-OF-SEMESTER EXAMINATIONS : NOVEMBER-2025

BSC-COMPUTER SCIENCE-(AIDED & SF)

MAXIMUM MARKS: 75

SEMESTER: I

TIME : 3 HOURS

PART - III

25UCS101 – C++ PROGRAMMING

SECTION – A

(10 X 1 = 10 MARKS)

ANSWER THE FOLLOWING QUESTIONS. (K1)

1. Which of the following is the process by which objects of one class acquire the properties of objects of another class?
(a) Inheritance (b) Polymorphism (c) Encapsulation (d) Abstraction
2. Which of the following is a situation where a function calls itself?
(a) Function (b) Recursion (c) Call by Value (d) Inline Function
3. Which of the following function is expanded in line when it is invoked?
(a) inline (b) friend (c) calling (d) called
4. Which keyword is used to declare a static data member in a class?
(a) static (b) const (c) extern (d) private
5. Which of the following is true about destructors?
(a) Destructor can take arguments (b) Destructor must be declared static
(c) Destructor has the same name as constructor but prefixed with ~
(d) Destructor returns a value

ANSWER THE FOLLOWING IN ONE (OR) TWO SENTENCES

(K2)

6. List the usage of malloc() and Calloc()
7. Define function.
8. List any two rules for operator overloading.
9. List the advantages of Inheritance.
10. Define File.

SECTION – B

(5 X 5 = 25 MARKS)

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

11. a) Examine the benefits and applications of OOPs.

(OR)

- b) Apply your knowledge to categorize different types of operators used in C++ and explain any two operators with suitable example.

(CONTD 2)

12. a) Construct a C++ program to compute the factorial of a number using recursion.
(OR)
b) Illustrate the usage of a friend function with an example and explain how it accesses private members of a class.
13. a) Implement and explain the use of a destructor in C++ with suitable example.
(OR)
b) Write a C++ program to overload unary operator.
14. a) Define Single Inheritance. Write a C++ program to demonstrate single inheritance.
(OR)
b) Define pointers and apply the concept of 'this' pointer in a class with a suitable program.
15. a) Demonstrate unformatted I/O operations in C++ by writing a program using get(), put(), getline(), and write() functions.
(OR)
b) Write a C++ program that opens a file in different modes.

SECTION – C**(5 X 8 = 40 MARKS)****ANSWER EITHER (a) OR (b) IN EACH OF THE FOLLOWING QUESTIONS.(K4 (Or) K5)**

16. a) Analyze the fundamental concepts of Object-Oriented Programming and explain how each concept contributes to program design with suitable examples.
(OR)
b) Compare and contrast while and do-while control statement in C++ with suitable example.
17. a) Evaluate the concept of Function Overloading in C++ by identifying its advantages.
(OR)
b) Critically analyze the usage of friend functions in C++ with an example.
18. a) Analyze the different types of constructors in C++ with suitable example.
(OR)
b) Develop and analyze a C++ program to demonstrate binary operator overloading
19. a) Design a C++ program to implement multiple inheritance.
(OR)
b) Compare virtual functions and pure virtual functions in C++. Explain with examples.
20. a) Develop a C++ program to implement command-line arguments. Evaluate its importance in dynamic program input.
(OR)
b) Implement exception handling in C++ with try-catch blocks and give suitable example.
