

MSc (SS) DEGREE EXAMINATION MAY 2026
(Second Semester)

Branch -**SOFTWARE SYSTEMS**(Five Year integrated)

OBJECT ORIENTED PROGRAMMING WITH C++

Time: Three Hours

Maximum: 75 Marks

SECTION-A (10 Marks)

Answer **ALL** questions

ALL questions carry **EQUAL** marks

(10 × 1 = 10)

Module No.	Question No.	Question	K Level	CO
1	1	Which programming paradigm emphasizes functions and procedures? (i) Object-Oriented Programming (ii) Functional Programming (iii) Procedure-Oriented Programming (iv) Logic Programming	K1	CO1
	2	Relate the 'endl' manipulator in C++ to its function in an output statement. (i) Inserts a tab space (ii) Inserts a linefeed (iii) Accepts user input (iv) Clears the output buffer	K2	CO1
2	3	Which of the following is a valid function prototype in C++? (i) int add(int a, int b); (ii) int add(int a, int b) (iii) void add(int a, int b) (iv) func add(int a, int b);	K1	CO2
	4	Interpret the default access specifier for members of a C++ class. (i) static (ii) public (iii) protected (iv) private	K2	CO2
3	5	Recall the purpose of a destructor in a C++ class. (i) Initialize objects (ii) Release memory objects (iii) Copy objects (iv) Overload operators	K1	CO3
	6	Interpret which operator can only be overloaded using a friend function in C++. (i) + (ii) - (iii) << (iv) ++	K2	CO3
4	7	Select the type of inheritance that allows a class to inherit from only one base class. (i) Single Inheritance (ii) Multiple Inheritance (iii) Multilevel Inheritance (iv) Hybrid Inheritance	K1	CO4
	8	Interpret the role of 'this' pointer in a C++ class. (i) Pointer to base class (ii) Pointer to derived class (iii) Pointer to current object (iv) Pointer to virtual function	K2	CO4
5	9	Which feature of C++ enables a function to operate with different data types? (i) Inline functions (ii) Virtual functions (iii) Function templates (iv) Friend functions	K1	CO5
	10	Interpret which block is responsible for catching an exception. (i) catch (ii) throw (iii) try (iv) finalize	K2	CO5

Cont...

SECTION - B (35 Marks)Answer **ALL** questions**ALL** questions carry **EQUAL** Marks

(5 × 7 = 35)

Module No.	Question No.	Question	K Level	CO
1	11.a.	Compare Procedural Oriented Programming with Object Oriented Programming.	K2	CO1
		(OR)		
	11.b.	Explain the structure of a C++ program with an example.		
2	12.a.	Apply an inline function in a C++ program and discuss its advantages and limitations.	K3	CO2
		(OR)		
	12.b.	Develop a C++ program to demonstrate declaring and initializing an array of objects.		
3	13.a.	Examine the declaration and invocation of a parameterized constructor in a class.	K4	CO3
		(OR)		
	13.b.	Compare and contrast overloading unary and binary operators in C++ with suitable examples.		
4	14.a.	Interpret a C++ multiple inheritance hierarchy and explain how virtual base classes resolve ambiguity.	K5	CO4
		(OR)		
	14.b.	Assess how derived class pointers influence polymorphism in C++ using virtual and non-virtual functions.		
5	15.a.	Explain class template with suitable example.	K5	CO5
		(OR)		
	15.b.	Assess exception handling in C++ using a program that throws, catches, and rethrows an exception.		

SECTION -C (30 Marks)Answer **ANY THREE** questions**ALL** questions carry **EQUAL** Marks

(3 × 10 = 30)

Module No.	Question No.	Question	K Level	CO
1	16	Illustrate expressions and control structures in C++ with examples.	K2	CO1
2	17	Develop a C++ program to demonstrate the use of friend functions in C++.	K3	CO2
3	18	Analyze type conversion between class types in C++ using a conversion constructor.	K4	CO3
4	19	Explain a C++ program demonstrating multilevel inheritance and the sequence of constructor and destructor calls.	K5	CO4
5	20	Explain how command-line arguments are used to open and read a file in C++ with an example.	K5	CO5

Z-Z-Z END