

CBCS SCHEME



USN

BCS306B

Third Semester B.E./B.Tech. Degree Examination, June/July 2025 Object Oriented Programming with C++

Time: 3 hrs.

Max. Marks: 100

*Note: 1. Answer any FIVE full questions, choosing ONE full question from each module.
2. M : Marks, L: Bloom's level, C: Course outcomes.*

Module – 1			M	L	C
Q.1	a.	Define inheritance and explain it with an example.	10	L2	CO1
	b.	Define Object-Oriented Programming. List and explain four main principles of object oriented programming.	10	L2	CO1
OR					
Q.2	a.	Explain with an example how objects are passed to the function.	10	L2	CO1
	b.	Explain the concept of friend functions in C++. Provide a code example to illustrate how a friend function can access private members of a class.	10	L3	CO1
Module – 2					
Q.3	a.	Explain with an example the following terms: i) Pointers to derived types ii) Pointers to class members	10	L2	CO2
	b.	Explain the use of arrays of objects in C++ with an example.	10	L3	CO2
OR					
Q.4	a.	Explain function overloading with an example.	10	L3	CO2
	b.	Explain with an example the following terms : i) Copy constructors ii) Default function arguments	10	L2	CO3
Module – 3					
Q.5	a.	What is operator overloading? Write a C++ program to illustrating overloading NEW and DELETE operators.	10	L3	CO3
	b.	Define a member operator function in C++ to overload the '+' operator for adding two objects of a class. Explain with code.	10	L2	CO3
OR					
Q.6	a.	Explain the different types of inheritances used in C++, with an example.	10	L3	CO3
	b.	How does inheritance enable code reusability? Explain with an example.	10	L3	CO3
Module – 4					
Q.7	a.	What are virtual functions? Describe the rules for declaring virtual function.	10	L2	CO4
	b.	Explain early binding and late binding with example.	10	L3	CO4
OR					
Q.8	a.	Explain the concept of generic function using templates in C++ with an example.	10	L3	CO4
	b.	What is significance of 'type name' and 'export' in C++ templates? Explain with examples.	10	L2	CO4
Module – 5					
Q.9	a.	How do you handle exceptions in derived classes? Explain with an example.	10	L2	CO5
	b.	What are different exception handling options in C++? Explain with examples.	10	L3	CO5
OR					
Q.10	a.	How can you handle errors while reading / writing files in C++? Provide an example.	10	L3	CO5
	b.	How do you detect the End-of-File (EoF) in C++? Discuss with a program.	10	L2	CO5
