24CS-BCAP-MA-03-05001

Seat No. _____

BACHELOR OF COMPUTER APPLICATION-CS Examination

BCA SEMESTER-3 NOVEMBER 2025 (NEP) NOVEMBER - 2025

CS-15: C++ AND OBJECT ORIENTED PROGRAMMING

Faculty Code : 017

Subject Code : 24CS-BCAP-MA-03-05001

Time : 2 Hours] **[Total Marks : 50**

Q.1 (A) Attempt the following. 3

(1) Define Object-Oriented Programming.

(2) What is a token in C++?

(3) Write the syntax of a *for* loop in C++.

Q.1 (B) Attempt any one of the following. 2

(1) Explain the differences between procedure-oriented and object-oriented programming.

(2) Explain the basic structure of a C++ program with an example.

Q.1 (C) Attempt any one of the following. 5

(1) Explain the basic concepts and benefits of object-oriented programming with examples.

(2) Discuss the various types of control structures in C++ with suitable examples.

Q.2 (A) Attempt the following. 3

(1) What is a class in C++?

(2) Define a constructor.

(3) What is a static data member?

Q.2 (B) Attempt any one of the following. 2

(1) Explain the concept of an array of objects with an example.

(2) Write a short note on friend functions.

Q.2 (C) Attempt any one of the following. 5

(1) Explain different types of constructors with suitable examples.

(2) Describe the role of constructor and destructor in object initialization and cleanup.

Q.3 (A) Attempt the following. 3

(1) Define operator overloading.

(2) What is a virtual base class?

(3) What is type conversion in C++?

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Q.3 (B)	Attempt any one of the following.	2
	(1) Write a short note on rules for operator overloading.	
	(2) Explain the concept of inheritance with an example.	
Q.3 (C)	Attempt any one of the following.	5
	(1) Discuss the types of inheritance supported by C++ with suitable examples.	
	(2) Explain operator overloading using friend functions with an example.	
Q.4 (A)	Attempt the following.	3
	(1) What is a pointer to object?	
	(2) Define a virtual function.	
	(3) What is the use of the *this* pointer?	
Q.4 (B)	Attempt any one of the following.	2
	(1) Explain the concept of runtime polymorphism.	
	(2) Write a short note on manipulators in C++.	
Q.4 (C)	Attempt any one of the following.	5
	(1) Explain the role of virtual functions and RTTI in achieving polymorphism.	
	(2) Describe the formatted and unformatted console I/O operations in C++ with examples.	
Q.5 (A)	Attempt the following.	3
	(1) What is a file pointer?	
	(2) Define exception handling.	
	(3) What is a template in C++?	
Q.5 (B)	Attempt any one of the following.	2
	(1) Write a short note on file modes in C++.	
	(1) Explain the need for exception handling.	
Q.5 (C)	Attempt any one of the following.	5
	(1) Discuss different types of file operations and error handling in C++.	
	(2) Explain function templates and class templates with examples.	

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