



Seat No. _____

BACHELOR OF COMPUTER APPLICATION Examination
BCA SEMESTER-3 NOVEMBER 2025 (Regular) NOVEMBER - 2025

CS-15: C++ AND OBJECT ORIENTED PROGRAMMING

Faculty Code : 003

Subject Code : 23SI-BCAP-MA-03-05001

Time : 2 Hours]

[Total Marks : 50

- Q.1 Attempt the following. 3
- (A) (1) Define Object-Oriented Programming.
(2) What is a token in C++?
(3) Write the syntax of a *for* loop in C++.
- Q.1 Attempt any one of the following. 2
- (B) (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 Attempt any one of the following. 5
- (C) (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 Attempt the following. 3
- (A) (1) What is a class in C++?
(2) Define a constructor.
(3) What is a static data member?
- Q.2 Attempt any one of the following. 2
- (B) (1) Explain the concept of an array of objects with an example.
(2) Write a short note on friend functions.
- Q.2 Attempt any one of the following. 5
- (C) (1) Explain different types of constructors with suitable examples.
(2) Describe the role of constructor and destructor in object initialization and cleanup.
- Q.3 Attempt the following. 3
- (A) (1) Define operator overloading.
(2) What is a virtual base class?
(3) What is type conversion in C++?

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