

**B.Sc. Sem.-3 Examination
CC 201**

**Computer Science
December-2025**

Time : 2.30 Hours]

[Max.Marks : 70

Q.1 Write the following.

- A Object Oriented Programming Concepts. 7
- B What is a class and an object? Explain the structure of a class, access specifies (private, public, protected), and object creation in C++ with a complete program. 7

OR

- A Explain constructors and destructors in C++ 7
- B What is Inheritance? Explain different types of inheritance in C++. 7

Q.2 Write the following.

- A Explain Polymorphism in C++. Discuss. 7
- B What are virtual functions? Explain how runtime polymorphism is achieved in C++ using virtual functions with a complete program. 7

OR

- A Explain Operator Overloading in C++. What are the rules and limitations? Overload any two operators with an example program. 7
- B What is Abstraction? Explain abstract classes and pure virtual functions in C++. Write a program to demonstrate abstraction. 7

Q.3 Write the following.

- A Explain Exception Handling in C++. Describe try, catch, and throw with a suitable example program. 7
- B Explain Dynamic Memory Allocation in C++ using new and delete. Compare it with malloc() and free(). 7

OR

- A What is Friend Function and Friend Class? Explain with suitable examples and advantages. 7
- B Explain Inline functions, Static members, and Constant members in C++ with examples. 7

P.T.O

Q.4 Write the following.

- A Explain File Handling in C++. Describe file streams (ifstream, ofstream, fstream) and file operations with a sample program. 7
- B What are Templates in C++? Explain function templates and class templates with examples. 7

OR

- A What is Pointer linklist ? Different type of Link list. 7
- B What is Stack and queue. 7

Q.5 MCQ 14

- 1) Which of the following is the basic unit of OOP?
 - A) Function B) Object
 - C) Structure D) Variable
- 2) Which feature of OOP binds data and functions together?
 - A) Polymorphism B) Inheritance
 - C) Encapsulation D) Abstraction
- 3) Which access specifier allows members to be accessed only within the class?
 - A) public B) private
 - C) protected D) default
- 4) Which keyword is used to create an object dynamically in C++?
 - A) malloc B) alloc
 - C) new D) create
- 5) Which of the following supports runtime polymorphism?
 - A) Function overloading B) Operator overloading
 - C) Virtual function D) Inline function
- 6) A constructor is called when:
 - A) Object is destroyed B) Object is created
 - C) Program ends D) Function is called
- 7) Which operator cannot be overloaded in C++?
 - A) + B) ==
 - C) :: D) <<