

1. All questions are **Compulsory**.
2. All questions Carry **equal** marks.
3. Draw **neat, labelled** diagram wherever necessary

Q.1 Attempt the following (Any four)

[20Marks]

- a) Explain Characteristics of OOPS.
- b) What is Class? How it is created explain with example.
- c) Demonstrate If statement with example.
- d) Explain various Data types used in C++.
- e) Explain Implicit and Explicit type casting.
- f) Explain the purpose of Class diagram.

Q.2 Attempt the following (Any four)

[20Marks]

- a) How Constructor is different from normal function? Explain Default Constructor.
- b) What is Copy Constructor? Explain its need.
- c) What are Accessor and Mutator function in C++?
- d) How to initialize Array of Object?
- e) Explain common types of OOP relationship and their UML representation.
- f) Write C++ program to demonstrate Binary + Operator.

Q.3 Attempt the following (Any four)

[20Marks]

- a) Explain types of Inheritance.
- b) What are different file operations and file modes.
- c) Design Class diagram for library management system.
- d) Write a program for Virtual function.
- e) What is Polymorphism? Explain with Binding
- f) Demonstrate Pointer in C++.

Q.4 Attempt the following (Any 5)

[15Marks]

- a) Explain benefits of OOPS.
- b) Write short note on Aggregation.
- c) What is Destructor in C++?
- d) What is friend Class in C++?
- e) What is Use of * and & in Pointer?
- f) What are Different file operations in C++?