

GUJARAT TECHNOLOGICAL UNIVERSITY

BE- SEMESTER-VI EXAMINATION – WINTER 2025

Subject Code:3160922

Date:19-11-2025

Subject Name:Object Oriented Programming

Time:02:30 PM TO 05:00 PM

Total Marks:70

Instructions:

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.
4. Simple and non-programmable scientific calculators are allowed.

	MARKS
Q.1 (a) What is object-oriented programming? What are the advantages of an object-oriented programming paradigm?	03
(b) Explain the concept of data abstraction and encapsulation in OOP.	04
(c) Write a program in C++ to generate the Fibonacci series (up to 20 data) using class Fibonacci: (The series can be written as: 1 1 2 3 5 8 ...)	07
Q.2 (a) Explain the use of C++ operators: new and delete.	03
(b) Explain: Object and Class.	04
(c) What is an expression? Explain their types with example.	07
OR	
(c) Enlist the various operators used in C++. Explain any three of them.	07
Q.3 (a) Explain the “if...else...” conditional statement with suitable example in C++.	03
(b) What is dynamic initialization of a variable? Give an example.	04
(c) What is function polymorphism? Explain it with an appropriate C++ program.	07
OR	
Q.3 (a) Explain the “for” loop statement with suitable example in C++.	03
(b) Describe arrays of object with suitable example.	04
(c) Explain the terms with suitable examples: <i>call by value</i> and <i>call by reference</i> ?	07
Q.4 (a) Explain basic to class type conversion with appropriate example.	03
(b) Explain inline function with suitable example.	04
(c) What is a constructor? Explain different types of constructors with an appropriate example.	07
OR	
Q.4 (a) Describe the application of "this" pointer with an example.	03
(b) Explain the purpose of destructor in C++ with a suitable example.	04
(c) What is an operator overload? Write a program to overload binary “+” operator as a member function.	07

- Q.5 (a)** What is Exception handling in C++? **03**
- (b)** Explain pure virtual functions with example. **04**
- (c)** What are the various forms of inheritance? Explain any one type of them with an appropriate program in C++. **07**

OR

- Q.5 (a)** What is the purpose of template in C++? **03**
- (b)** Demonstrate the application of virtual functions with a suitable program. **04**
- (c)** What is a stream? Explain different stream classes for console I/O operations in C++. **07**
