Seat No.: _____   Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY
BE - SEMESTER–IV (NEW) EXAMINATION – SUMMER 2022

Subject Code:2140705   **Date:04-07-2022**

Subject Name:Object Oriented Programming With C++

Time:10:30 AM TO 01:00 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)**	Define destructor. Enlist the characteristics of it.	**03**
	(b)	Describe the characteristic differences between OOP and POP.	**04**
	(c)	Define friend function? In which scenario friend function is used? Explain it with suitable example.	**07**
Q.2	**(a)**	Describe the following terms in C++ with example: i) Reference Variable ii) Portability iii) Dynamic Binding	**03**
	(b)	Illustrate the use of scope resolution operator (**::**) with an example.	**04**
	(c)	Define a constructor? Differentiate different types of constructors.	**07**
		OR	
	(c)	Define an operator overloading? Write a program to overload binary + operator.	**07**
Q.3	**(a)**	Explain merits and demerits of inline functions.	**03**
	(b)	What is function overloading? Illustrate with suitable example.	**04**
	(c)	Define Virtual functions. Discuss its rules. Explain with suitable example.	**07**
		OR	
Q.3	**(a)**	Differentiate Macro and Inline Function.	**03**
	(b)	Describe the following terms in C++ with example: i) Default Argument ii) this pointer iii) Dynamic Binding	**04**
	(c)	Enlist the benefits of using inheritance. Explain hybrid inheritance with suitable example.	**07**
Q.4	**(a)**	Enlist and explain different file management functions.	**03**
	(b)	Explain template function and template class with example.	**04**
	(c)	Define a stream? Describe various stream classes for console I/O operations.	**07**
		OR	
Q.4	**(a)**	Enlist and discuss different file modes in C++.	**03**
	(b)	Define Overriding. Explain with suitable example.	**04**
	(c)	Define an Exception? Explain Exception Handling Mechanism. Give example with multiple catch blocks.	**07**
Q.5	**(a)**	Explain the use of **setw**(), **setfill**() and **setprecision**() manipulator with example.	**03**
	(b)	Demonstrate the use of static variables and static functions with a program.	**04**

(c) Write a program that reads a text file and creates another text file that is identical except that every letter must be converted to lower case irrespective of its original case (e.g 'a' or 'A' will become 'a'). **07**

OR

Q.5 **(a)** Explain Private, Protected and Public access specifier. **03**

(b) Explain type conversion from class type to basic type and one class type to another class type with suitable example. **04**

(c) i) Explain **tellg** and **seekp** functions. **07**
ii) Explain STL with its core components.

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