Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER–V • EXAMINATION – SUMMER 2013

Subject Code: 152004 **Date: 20-05-2013**

Subject Name: Object-Oriented Programming in C++

Time: 10:30 pm 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.**

Q.1	**(a)**	Explain all basic concepts of object oriented programming, with suitable Example ?	**07**
	(b)	Explain Inheritance in C++ with example.	**07**
Q.2	**(a)**	Compare object and classes.	**07**
	(b)	Explain constructor in C++ with example.	**07**
		OR	
	(b)	Explain destructor in C++ with example.	**07**
Q.3	**(a)**	What is function overloading? Explain with example.	**07**
	(b)	Describe the mechanism of accessing data members and member functions in the following cases: 1) Inside the main program. 2) Inside a member function of the same class. 3) Inside a member function of another class.	**07**
		OR	
Q.3	**(a)**	What is operator overloading? Explain with example.	**07**
	(b)	Explain Generic functions and Generic class.	**07**
Q.4	**(a)**	Define polymorphism and Explain Virtual functions with example.	**07**
	(b)	What is typecasting? What are explicit and implicit type conversions?	**07**
		OR	
Q.4	**(a)**	What is a friend function?. What are the merits and demerits of using the friend function?.	**07**
	(b)	Explain public, private and protected access specifiers and show their visibility when they are inherited as public, private and protected?	**07**
Q.5	**(a)**	Declare a class called time having hours, minutes and seconds as member variables. Define a member function called add_time that accepts two objects of type time class, performs addition of time in hours, minutes and seconds format and returns an object of type time class. Write appropriate functions for initialization and display of member functions.	**07**
	(b)	Explain scope resolution operator with example	**07**
		OR	
Q.5	**(a)**	Write a program in C++ for overloading volume function.	**07**
	(b)	How can you make a function inline? Why? How does an inline function differ from a preprocessor macro? Explain with example.	**07**

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