Seat No.:	Enrolment No.

GUJARAT TECHNOLOGICAL UNIVERSITY BE - SEMESTER-IV (New) EXAMINATION – WINTER 2015

Subject Code:2142005 Date:04/01/2016

Subject Name: PROGRAMMING METHODOLOGY USING C++

Time: 2:30pm to 5:00pm 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) (b)	Enlist and explain the basic concepts object-oriented programming. What is constructor? Explain Default and copy constructor.	07 07
Q.2	(a)	What is RTTI? Explain the syntax of typeid operator. Explain with example the concept of RTTI using typeid operator.	07
	(b)	Define operator overloading. Write a program to overload unary plus operator	07
		OR	
	(b)	(i) Explain >> and << operators.(ii) Explain how to allocate and de-allocate memory dynamically.	07
Q.3	(a)	Define – stream. Discuss various stream classes with its contents available for console I/O operations.	07
	(b)	(i) Describe multi-level and multiple inheritances.(ii) Explain two usage of keyword virtual.	07
Q.3	(a)	OR Explain with example various functions available for manipulation of file pointers.	07
	(b)	(i) Explain keywords protected and public.(ii) Explain needs and usage of this pointer.	07
Q.4	(a)	What is STL? Enlist and explain core components of STL. Also show the relationship between them.	07
	(b)	Explain the steps involved in object-oriented design approach. OR	07
Q.4	(a) (b)	Explain friend function with the help of an example. (i) Declare a class called book having members like book_title, publisher and author_name. Overload extractor and inserter operators (>> and <<) for class book. (ii) Explain manipulators.	07 07
Q.5	(a) (b)	Why templates are used in programming? Explain with proper example. (i) Explain try, catch and throw. Give one simple example. (ii) Explain tellg and seekp functions. OR	07 07
Q.5	(a)	Explain various cast operators.	07
-	(b)	Enlist types of inheritance and explain any one in detail with proper programming example.	07
