

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY
MCA -Integrated SEMESTER– IV • EXAMINATION – SUMMER 2015

Subject Code:4440601

Date: 11/05/2015

Subject Name:C++ with Class Libraries

Time:10:30 am to 1:00 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)** Answer the following: **07**
- (i) State the operator in C++ which is used for dynamic memory allocation.
 - (ii) Can we overload a destructor? State your answer with proper reason (no reason no marks).
 - (iii) What is pure virtual function?
 - (iv) What is the advantage of making a function inline?
 - (v) Which type of function is used to overload assignment operators?
 - (vi) State the namespace in which “cout” is specified.
 - (vii) State the function which is used to get the current position of the “get” file pointer while reading a file.
- (b)** Answer the following:
- (i) Explain the features of Object Oriented Programming in brief. **04**
 - (ii) Explain the need and use of “this” pointer in C++. **03**
- Q.2 (a)** What is a friend function? Explain the need for creating a friend function along with appropriate example. **07**
- (b)** What is a constructor? Describe various types of constructors along with appropriate example. **07**
- OR**
- (b)** What is operator overloading? Explain different ways of overloading unary and binary operators along proper example. **07**
- Q.3 (a)** What is user-defined type conversion? Explain the mechanism of class to class conversion in detail. **07**
- (b)** What is a template in C++? Explain the use of class template and specify the syntax of creating a class template. **07**
- OR**
- Q.3 (a)** Design a template in C++ to create a function that would search an element in an array of generic type. **07**
- (b)** What is STL? Explain various components of STL in brief. **07**
- Q.4 (a)** What is inheritance? Explain various types of inheritance using appropriate block diagram and syntax. **07**
- (b)** Define dynamic polymorphism. How is it different from static polymorphism? Explain with appropriate example. **07**
- OR**
- Q.4 (a)** What is virtual base class? Explain the need for creating a virtual base class along with appropriate example. **07**
- (b)** What is RTTI? Explain in detail the need and mechanism for RTTI. **07**

- Q.5 (a)** What is a namespace? What is the need for creating namespaces in C++? Explain different ways for accessing elements of a namespace along with appropriate example. **07**
- (b)** Write a short note on the exception handling mechanism available in C++. **07**
- OR**
- Q.5 (a)** Design a manipulator called “MyFormat” that would print a number left aligned in a width of 10 characters and blank spaces padded with ‘\$’. It should show a “+” sign for positive numbers, and have two digits after decimal point. **07**
- (b)** Write a program in C++ to concatenate the contents of a text file at the end of another text file. **07**
