

GUJARAT TECHNOLOGICAL UNIVERSITY
MCA Integrated - SEMESTER– IV • EXAMINATION – SUMMER 2018

Subject Code:4440601**Date: 01/05/2018****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:
- (i) What is the purpose of local class? **02**
- (ii) Explain the use of “this” keyword in C++ programming language. **02**
- (iii) State the types of constructors in C++? **03**
- (b)** Answer the following:
- (i) What is RTTI? Explain with appropriate example. **04**
- (ii) What is scope resolution operator? State its use. **03**
- Q.2 (a)** What is object oriented programming? How is it different from procedure oriented programming? Discuss in brief, the main features of object oriented programming. **07**
- (b)** Distinguish between macro definition, normal function and inline function. What are the advantages and disadvantages of inline functions? **07**
- OR**
- (b)** What is a friend class? Write a program to demonstrate its use. **07**
- Q.3 (a)** What is a destructor? Explain its syntax and use along with an appropriate example. **07**
- (b)** What is operator overloading? Explain how friend functions can be used for overloading binary operators in C++ along with proper example. **07**
- OR**
- Q.3 (a)** Explain class templates and function templates in C++ along with appropriate example. **07**
- (b)** Write a short note on type conversion in C++ programming language. **07**
- Q.4 (a)** Explain how exceptions are handled in C++ and the concept of re-throwing an exception along with appropriate example. **07**
- (b)** Explain the term “containership” and how is it implemented in C++ along with appropriate example. **07**
- OR**
- Q.4 (a)** What are virtual functions? Explain the use of virtual functions with appropriate example. **07**
- (b)** What is inheritance? Explain multiple and multi-level inheritance along with appropriate diagram and example. **07**
- Q.5 (a)** What are manipulators? Explain any three manipulators available in C++ along with appropriate example. **07**
- (b)** What is a namespace? Explain different ways through which the members of a namespace can be accessed along with proper example. **07**
- OR**
- Q.5 (a)** Explain in detail how random file access is implemented in C++ along with appropriate example. **07**
- (b)** What is generic programming? Explain how STL is used to create generic programs. **07**
