

GUJARAT TECHNOLOGICAL UNIVERSITY
MCA– SEMESTER –III EXAMINATION –SUMMER-2019

Subject Code:3630004

Date: 29-05-2019

Subject Name: Programming with C++

Time:02.30 pm to 5.00 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 following questions in brief. **07**
1. What is the difference in using sizeof operator in C and C++?
 2. What does it mean by function overriding?
 3. What do you mean by reference variable?
 4. What is static function?
 5. What is inheritance?
 6. What is class and object?
 7. What is a namespace?
- (b)** 1. Write a short note data type available in C++. **04**
2. What is inline function explain in detail. **03**
- Q.2 (a)** What is reference variable? Explain with suitable example: (i) Pass-by-reference and (ii) Returning a reference from a function. **07**
- (b)** 1. Write a short note on friend function. **04**
2. Define : Data Hiding, Data Abstraction & Data Encapsulation **03**
- OR
- (b)** Explain prefix ++ and postfix ++ operator. How they can be overloaded? Explain with suitable example. **07**
- Q.3 (a)** What is constructor? Explain parameterized constructor with suitable example. **07**
- (b)** What is wrapper class? Explain wrapper class with suitable example. **07**
- OR
- Q.3 (a)** Explain namespace? Why is required? Can we use cin without ‘using namespace std’ in our program? What is unnamed namespace? **07**
- (b)** Why to use exception handling? Explain exception handling mechanism. Also demonstrate with example: rethrowing an exception. **07**
- Q.4 (a)** What is the need of overloading the = and [] operators overloading? Discuss overloading of the = and [] operators using suitable examples. **07**
- (b)** What is template function? Explain template function with suitable example. **07**
- OR
- Q.4 (a)** What is the importance of RTTI? Discuss the type_info object and typeid operator. **07**
- (b)** Differentiate between function template and class template with example. **07**
- Q.5 (a)** Explain STL with suitable example. **07**
- (b)** Explain dynamic polymorphism. Explain virtual function using suitable example. **07**
- OR
- Q.5 (a)** Explain hybrid inheritance. Discuss virtual base class with example. **07**
- (b)** Why type conversion is required for class? Demonstrate basic to class type and class type to basic type conversion with suitable example. **07**