

GUJARAT TECHNOLOGICAL UNIVERSITY**MCA - SEMESTER-II • EXAMINATION – WINTER 2013****Subject Code: 620003****Date: 26-12-2013****Subject Name: Object Oriented Concepts & Programming (OOCp)****Time: 10:30 am 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)** Define following terms. **07**
 (1) this pointer (2) Operator overloading (3) Constant pointer
 (4) Pointer to constant (5) Containership (6) Template (7) Access specifier
- (b)** What is OOP? Explain various concepts of OOP supported by C++. **07**
- Q.2 (a)** Explain all the cases of friend function with example programs. **07**
(b) Explain the concept of 'static' in terms of data member and member function. **07**
- OR**
- (b)** Explain various types of constructors available in C++, also give example program. **07**
- Q.3 (a)** Explain member dereferencing operators. **03**
(b) Explain various access modifiers. **04**
(c) What is inline function? Discuss the situations where compiler does not allow a function to be inline. Differentiate it with macros. **07**
- OR**
- Q.3 (a)** Define constructor and destructor. Differentiate between both. Write the properties of constructor and destructor. **07**
(b) Explain the concept of Call by value & call by reference with suitable example. **07**
- Q.4 (a)** Explain function with default argument with suitable example. **03**
(b) Explain memory management operators with example.# **04**
(c) Discuss 'virtual function' and 'pure virtual function' with example. **07**
- OR**
- Q.4 (a)** Overload ++ and -- for stack class so that ++ provides push operation and -- provides pop operation. **07**
(b) Explain virtual base class with example. **05**
(c) Differentiate between static polymorphism and dynamic polymorphism. **02**
- Q.5 (a)** State and explain various file opening modes. **04**
(b) Differentiate between writing text file and writing binary file. **03**
(c) Explain function template and class template with suitable example. **07**
- OR**
- Q.5 (a)** What is an exception? List and explain components of exception handling mechanism. **07**
(b) Explain following terms. **07**
 (1) static_cast (2) const_cast (3) reinterpret_cast (4) dynamic_cast
