

**GUJARAT TECHNOLOGICAL UNIVERSITY****BE - SEMESTER-V- EXAMINATION – SUMMER 2016****Subject Code: 152004****Date: 06/05/2016****Subject Name: Object Oriented Programming in c++****Time: 02:30 PM to 05:00 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) Explain Setw and Width manipulator with example. **07**  
(b) Explain Memory management operators New and Delete with example. **07**
- Q.2** (a) What is inline function? How they differ from macros of C language? **07**  
(b) Explain function overloading with suitable example. **07**  
OR  
(b) What is Friend function? Explain with suitable example. **07**
- Q.3** (a) What is inheritance? Explain various types of inheritance with Example. **07**  
(b) What is Data Hiding? What are the different mechanisms to protecting data from the external part of the class? **07**  
OR  
**Q.3** (a) Why we need Copy Constructor? Explain with example, when Copy Constructor will be called. **07**  
(b) How constructor and destructor will be called in case of multilevel inheritance? Explain with suitable example. **07**
- Q.4** (a) Overload + operator to do addition of two complex numbers using class complex. **07**  
(b) How can we overload [ ] (subscript) operator? Explain with example. **07**  
OR  
**Q.4** (a) When we need virtual base class? Explain with example. **07**  
(b) How exceptions can be handled in C++? Explain with example. **07**
- Q.5** (a) Design a template class to simulate STACK. It should have at least PUSH, POP operations and error checks, if any. **07**  
(b) What is Standard template library? Explain in details. **07**  
OR  
**Q.5** (a) Design a template class to simulate QUEUE. It should have at least PUSH, POP operations and error checks, if any. **07**  
(b) What is the difference between ios::ate and ios::app? Explain with example **07**

\*\*\*\*\*