

**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**BE - SEMESTER– IV(NEW) EXAMINATION – SUMMER 2015**

**Subject Code:2142005****Date:05/06/2015****Subject Name: Programming Methodology Using C++****Time: 10:30am-1.00pm****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) Enlist and explain the basic concepts object-oriented programming. **07**  
(b) Assume that a class matrix contains an integer array of 3X3 as a data member and read() and display() member functions. Write C++ program which reads two matrix objects and display these matrix objects using read() and display() functions respectively. **07**
- Q.2** (a) Define operator overloading. Write a program to overload unary minus operator. **07**  
(b) What is RTTI? Explain the syntax of typeid operator. Explain with example the concept of RTTI using typeid operator. **07**
- OR**
- (b) (i) Explain new operator with example. Also mention the advantages of new operator over malloc. **03**  
(ii) Explain the concept of function overloading with suitable example. **04**
- Q.3** (a) Discuss the setf() function with the help of syntax and example. **07**  
(b) Enlist and explain with example various functions available for manipulation of file pointers. **07**
- OR**
- Q.3** (a) Define – stream. Discuss various stream classes with its contents available for console I/O operations. **07**  
(b) Explain copy constructor with example. **07**
- Q.4** (a) Enlist and explain the steps involved in object-oriented analysis approach. **07**  
(b) What is STL? Enlist and explain core components of STL. Also show the relationship between them. **07**
- OR**
- Q.4** (a) Enlist and explain the steps involved in object-oriented design approach. **07**  
(b) Define – exception. Explain C++ exception handling mechanism with example. **07**
- Q.5** (a) Enlist and explain various cast operators. **07**  
(b) Explain map container in detail with example. Also enlist the member functions of the map class. **07**
- OR**
- Q.5** (a) Enlist types of inheritance and explain any one in detail with proper programming example. **07**  
(b) Why templates are used in programming? Explain with proper example. **07**

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