

Seat No.: \_\_\_\_\_

Enrolment No. \_\_\_\_\_

## GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-IV (OLD) - EXAMINATION – SUMMER 2017

Subject Code: 140705

Date: 14/06/2017

Subject Name: Object Oriented And Programming with C++

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) Describe various characteristics of OOP in detail. **07**  
(b) Explain with program: (i) call by reference (ii) copy constructor **07**
- Q.2** (a) Explain the difference between function overloading and function overriding with programs. **07**  
(b) Discuss in detail: (i) inline function (ii) constructor and destructor **07**
- OR**
- (b) Discuss in detail: (i) nameless temporary object (ii) this pointer **07**
- Q.3** (a) Create a class 'distance' containing private integer variables feet and inches. Perform addition operations by overloading + and += operators, and comparison operation by overloading != operator for two class objects. Define necessary functions to set and display the variables. (Consider 1 foot = 12 inches) **07**  
(b) Discuss static variable and static function in detail. **07**
- OR**
- Q.3** (a) Declare a class called 'weight' having members kilograms and grams. Overload >> and << operators for the same. **07**  
(b) Explain the use of 'new' and 'delete' operators with a program. **07**
- Q.4** (a) Discuss friend function and friend class in detail. **07**  
(b) Explain the concept of virtual base class with a program. **07**
- OR**
- Q.4** (a) Explain virtual function with example. **07**  
(b) Describe public and private inheritance with program(s). **07**
- Q.5** (a) Discuss function templates and class template with example. **07**  
(b) Explain read and write operations for binary files. **07**
- OR**
- Q.5** (a) Discuss exception handling in C++. **07**  
(b) Write a program which uses command line arguments to display the contents of a file. **07**

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