

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-IV • EXAMINATION – SUMMER 2013****Subject Code: 140705****Date: 17-06-2013****Subject Name: Object Oriented Programming with C++****Time: 10:30am – 01:00pm****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)** Explain basic concepts of Object-Oriented Programming. **07**
- (b)** (i) What is Reference variable? What is its major use? Give Example. **04**
(ii) Define Function Overloading. Give proper example. **03**
- Q.2 (a)** What is Constructor? Write the characteristics of constructor function. Define Class named point which represents 2-D Point, i.e P(x, y). Define Default constructor to initialize both data member value 5, Parameterized constructor to initialize member according to value supplied by user and Copy Constructor. Define Necessary Function and Write a program to test class Point. **07**
- (b)** What is Inline Function? In which Situation Inline Function may not work? How does an inline function differ from a preprocessor macro? Write program using Inline Function to find largest of three numbers. **07**
- OR**
- (b)** Create a class Account. It has three data member account id, name and balance. Define function to assign value and display value. Define function that search account number given by the user. If account number exists, print detail of that account. Write a program using array of object. Declare at least 5 account and print details. **07**
- Q.3 (a)** Define Friend Function. Create two classes DM and DB which store the value of distances. DM stores distances in meters and centimeters and DB in feet and inches. Write a program that can read values for the class objects and add one object of DM with another object of DB. Use a friend function to carry out the addition operation. The object stores the results may a DM object or DB object, depending on the units in which the results are required. The display should be in the format of feet and inches or meters and centimeters depending on the object on display. **07**
- 1 Feet = 0.3048 Meter 1 Meter = 3.28 Feet
1 Inch = 2.54 Centimeter 1 Centimeter = 0.3937 Inch
- (b)** (i) Explain Visibility mode. **03**
(ii) What is Type conversion? Explain Basic to class type conversion with example. **04**

- OR**
- Q.3 (a)** Define Operator overloading. Create class Time that has three data members hour, minute and second and two constructor, default constructor and parameterized constructor to initialize data member. Write a program to add two times by overloading operator +. **07**

