

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

MCA - SEMESTER-II • EXAMINATION – SUMMER 2013

Subject Code: 2620002

Date: 05-06-2013

Subject Name: Object Oriented Programming Concepts & Programming

Time: 10.30 am - 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) Fill in the blanks :

07

- i. _____ is a plan or template of an object.
- ii. _____ functions can be preferred over macros.
- iii. _____ type of constructor is provided by compiler if user does not declare any constructor.
- iv. _____ method is used to convert basic data type to user defined data type..
- v. _____ generate a function or class at compile time.
- vi. _____ object oriented feature indicates software reusability.
- vii. _____ function declarations are always denoted by '=0'.

(b) Select the most appropriate answer(s) :

07

- i. Static variables are sometimes called
 - a. Class variables
 - b. Function variables
 - c. Dynamic variables
 - d. Auto variables
- ii. The Exceptions are thrown
 - a. From the catch block to try block
 - b. From throw statement to try block
 - c. From the point of error to a catch block
 - d. From throw statement to a catch block
- iii. A C++ stream is
 - a. A flow of control through a function
 - b. A flow of data from one place to another
 - c. Associated with a particular class
 - d. A file
- iv. Statements `string mystring; getline(cin,mystring);` will
 - a. Read a line of string from cin into mystring
 - b. Read a line of string from mystring to cin
 - c. Give an error that cin can't be used this way
 - d. None of the above
- v. Which operator is used to signify the namespace?
 - a. Conditional operator
 - b. Ternary operator
 - c. Scope resolution operator
 - d. None of the above

- vi. An STL algorithm is
 - a. A standalone function that operates on containers
 - b. A link between member function and container
 - c. A friend function of appropriate container class
 - d. A member function of appropriate container class
- vii. Which rule will not affect the friend function?
 - a. Private and protected members of a class can not be accessed from outside
 - b. Private and protected members can be accessed from anywhere
 - c. Both (a) and (b)
 - d. None of the above

Q.2 (a) Write a C++ code to copy n lines in sequence from one file to another file. **07**

(b) i. What is exception handling? Briefly explain. **03**

ii. Write a template function that returns average of all elements of an array. The arguments to the function should be array name and size of an array (type int). In main(), exercise this function with three data types. **04**

OR

(b) i. How do you process unexpected Exceptions? **03**

ii. Write a C++ code to illustrate class template. **04**

Q.3 (a) i. Explain put(), get(), getline() and write() functions. **04**

ii. What is anonymous namespace? Briefly explain. **03**

(b) Clarify the difference between non-virtual function and virtual function with the help of a program. **07**

OR

Q.3 (a) i. Explain the use of any four manipulators of stream IO in C++. **04**

ii. What is namespace? Explain briefly. **03**

(b) Explain friend function with suitable example. **07**

Q.4 (a) Explain inline functions. **07**

(b) Explain constructor overloading with suitable example. **07**

OR

Q.4 (a) i. Write a C++ code demonstrate the use of static member data. **03**

ii. Compare normal functions with constructor and destructors. **04**

(b) What is default argument? Write a C++ code to show the use of it. **07**

Q.5 (a) Create a class called location having member data latitude and longitude of type double. Define getloc() function to enter latitude and longitude, putloc() function to display latitude and longitude. Overload + operator to add two objects and store result in third object. Overload ++ operator using friend function to find next location. **07**

(b) What is containership explain with suitable example. **07**

OR

- Q.5** (a) Create a class called rectangular having member data xco and yco of type double. Define another class called polar having member data radius and angle of type double. For the above classes : **07**
- Define necessary constructors.
 - Define necessary get() and put() functions to enter and display the result.
 - Define function to convert polar coordinates to rectangular coordinates.
(Conversion formulas : $xco = radius * \cos(angle)$;
 $yco = radius * \sin(angle)$;))
- (b) What is inheritance? List its types. Which type of inheritance is having ambiguity? How to overcome it? **07**
