C.U.SHAH UNIVERSITY
Winter Examination-2015

Subject Name: Object Oriented Programming

Subject Code: 4TE02OOP1   **Branch: B.Tech (All)**

Semester: 2   Date: 23/11/2015   Time: 10:30 To 1:30   Marks: 70

Instructions:
  (1) Use of Programmable calculator & any other electronic instrument is prohibited.
  (2) Instructions written on main answer book are strictly to be obeyed.
  (3) Draw neat diagrams and figures (if necessary) at right places.
  (4) Assume suitable data if needed.

Q-1   Attempt the following questions: **(14)**

  a)   Consider the following statements:
         int x = 22,y=15;
         x = (x>y)? (x+y) : (x-y);
         What will be the value of x after executing these statements?
         (A) 22   (B) 37
         (C) 7   (D) Error. Cannot be executed

  b)   The members of a class, by default, are
         (A) public   (B) protected
         (C) private   (D) mandatory to specify

  c)   The keyword *friend* does not appear in
         (A) the private section of a class
         (B) the class desiring access to another class.
         (C) the class allowing access to another class.
         (D) the public section of a class.

  d)   What is the output of the following code
         char symbol[3]={'a','b','c'};
         for (int index=0; index<3; index++)
         cout << symbol [index];
         (A) a b c   (B) "abc"
         (C) abc   (D) 'abc'

  e)   In C++, dynamic memory allocation is accomplished with the operator ____
         (A) new   (B) this
         (C) malloc( )   (D) delete

f) **A variable defined within a block is visible**
(A) From the point of definition onward in the program.
(B) From the point of definition onward in the function.
(C) Throughout the function.
 (D) From the point of definition onward in the block.

g) **If an array is declared as**
int a[4] = {3, 0, 1, 2}, then values assigned to a[0] & a[3] will be _____
(A) 3, 0   (B) 0, 2
(C) 3, 2   (D) 0, 4

h) **A function call mechanism that passes arguments to a function by passing a copy of the values of the arguments is _____**
(A) call by name   (B) call by value
(C) call by reference   (D) call by value result

i) **The process of building new classes from existing one is called _____.**
(A) Polymorphism   (B) Structure
(C) Inheritance   (D) Cascading

j) **Which of the following is not the characteristic of constructor?**
(A) They should be declared in the public section.
(B) They do not have return type.
(C) They cannot be inherited.
(D) They can be virtual.

k) **A class defined within another class is:**
(A) Nested class   (B) Inheritance
(C) Containership   (D) Encapsulation

l) **The major goal of inheritance in C++ is:**
(A) To facilitate the conversion of data types.
(B) To help modular programming.
(C) To extend the capabilities of a class.
(D) To hide the details of base class.

m) **An exception is caused by**
(A) a runtime error.   (B) a syntax error.
(C) a problem in the operating system.   (D) a hardware problem.

n) **A copy constructor takes**
(A) no argument   (B) one argument
(C) two arguments   (D) arbitrary no. of arguments

Attempt any four questions from Q-2 to Q-8

Q-2 Attempt all questions
    a)   Difference between Procedure Oriented Programming and Object Oriented **(07)**
            Programming.
    b)   Briefly explain the basic structure of a C++ Program with suitable example. **(07)**

Q-3 Attempt all questions
    a)   Which operators cannot be overloaded? Write steps to overload + operator so that **(07)**
            it can add two complex numbers.
    b)   What is Class? And what is an Object? Explain with suitable example. **(07)**

Q-4 Attempt all questions
    a)   Explain Function Overloading with suitable example. **(07)**
    b)   Explain Constructor Overloading with suitable example. **(07)**

Q-5 Attempt all questions
    a)   Briefly explain various File Management Functions with suitable example **(07)**
    b)   Explain virtual function with example. Why do we need virtual function? **(07)**

Q-6 Attempt all questions
    a)   What is type conversion? **(07)**
            Explain following type conversion with example
            1) Conversion from basic type to class type
            2) Conversion from class type to basic type
            3) Conversion from class type to class type
    b)   Write a C++ program to swap the values of two number using swap() function **(07)**
            using the concepts of Call by Value & Call by Reference.

Q-7 Attempt all questions
    a)   What are the different forms of inheritance? Give an example for each. **(07)**
    b)   Explain constructor and destructor in C++ with example. **(07)**

Q-8 Attempt all questions
    a)   Explain Exception Handling through try…catch… blocks with example. **(07)**
    b)   Create a Class student stores the roll no, Class test stores the marks obtained in **(07)**
            two subjects and class result contains the total marks obtain in the test. Class
            result can inherit the details of the marks obtain in the test and the roll no. of the
            student class.