GUJARAT TECHNOLOGICAL UNIVERSITY
BE - SEMESTER–IV(New) EXAMINATION – SUMMER 2016

Subject Code: 2140705                     Date: 08/06/2016
Subject Name: Object Oriented 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 Short Questions

1. Why C++ is not a pure object oriented programming language?
2. Explain encapsulation property of an OOP language.
3. Define class in C++.
4. What is the use of namespace in C++?
5. What are stream extraction and stream insertion operators?
6. Define destructor.
7. What is a friend class?
8. What is an abstract class?
9. What is the use of private inheritance?
11. Explain pure virtual function.
12. Discuss various access specifiers in C++.
13. What is the use of overloading an assignment (=) operator?
14. Explain tellg( ) function in file streams.

Q.2 (a) Explain function overloading with a program.
     (b) Create two classes X and Y containing private variables x and y respectively. Using a common friend function, perform multiplication operation between x and y.
     (c) Create a class coordinate containing x, y and z private variables.
         Perform operations for incrementing, adding and comparing object(s) by overloading +, = and = operators respectively. Define necessary functions to set and display the variables.

     OR
     (c) Write a program to demonstrate conversion of an object of one class into an object of another class.

Q.3 (a) Explain call by reference with a program.
     (b) Explain this pointer with a program.
     (c) Write a program to create a class distance containing feet and inches. Using operator keyword, convert an object of class distance into total meters which is a float data type. (1 meter = 3.28 feet)

     OR

Q.3 (a) Discuss new and delete keywords.
     (b) Discuss nameless temporary object.
     (c) Demonstrate the use of static variables and static functions with a program.

Q.4 (a) Explain Scope Resolution Operator (::) with a program.
     (b) Explain virtual base class with a program.
Write a program which uses command line argument to copy the contents of a file A.txt into another file B.txt by reversing case of the characters. E.g. File A.txt: aBCd File B.txt: AbCd

OR

Q.4 (a) Discuss the use of inline functions.
(b) Demonstrate the use of virtual functions with a program.
(c) Explain the use of binary files in C++ with a program.

Q.5 (a) Explain ios::app and ios::ate flags.
(b) Explain the use of multiple handlers in exception handling with a program.
(c) Create a generic class stack using template and implement common Push and Pop operations for different data types.

OR

Q.5 (a) Explain ios::binary and ios::trunc flags.
(b) Discuss Standard Template Library.
(c) With a program, explain exception handling in C++.

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