Third Semester B.E. Degree Examination, Dec.2017/Jan.2018
Object Oriented Programming with C++

Time: 3 hrs.   Max. Marks:100

Note: *Answer any FIVE full questions, selecting atleast TWO questions from each part.*

PART – A

1 a. Explain basic data types available in C++, briefly with examples. **(05 Marks)**
   b. What is inline function? Mention its advantages and also write a program to find cube of a given number. **(05 Marks)**
   c. What is function overloading? Write a C++ program to find area of circle, triangle and rectangle by overloading the function area. **(05 Marks)**
   d. Explain reference variable in C++. Also write a program to swap values of two given variables using reference variables. **(05 Marks)**

2 a. Explain how to achieve data hiding and encapsulation in C++, with suitable program. **(08 Marks)**
   b. What are constructor and destructor? Can you overload constructor and destructor? Justify with suitable example. **(08 Marks)**
   c. Explain static data member of a class. Also write a program to count the number of objects created. **(04 Marks)**

3 a. What is friend function? Write a program using bridge friend function swap to exchange the values of two variables and also display the result before and after swapping. **(10 Marks)**
   b. Write a C++ program to add two complex numbers by overloading the operator + using member function. **(05 Marks)**
   c. What is template function? Write a program using template function large to find the largest of three ints and three double numbers. **(05 Marks)**

4 a. How to achieve reusability in C++? Illustrate with an example. **(10 Marks)**
   b. Explain the differences between the three visibility modes, with suitable example. **(10 Marks)**

PART – B

5 a. Explain how to pass arguments to base class constructors in multiple inheritance, with suitable example. **(10 Marks)**
   b. Explain with the suitable diagram and program the virtual base class. **(10 Marks)**

6 a. What is runtime polymorphism? How to achieve it? Illustrate with an example program. **(10 Marks)**
   b. Explain pure virtual function and abstract class with suitable programs. **(10 Marks)**

7 a. Explain with the neat diagram, the stream class hierarchy. **(07 Marks)**
   b. Explain any five manipulators, with example. **(06 Marks)**
   c. Explain briefly various file operations. **(07 Marks)**

8 a. What is exception? Explain briefly exception handling options. **(10 Marks)**
   b. What is STL? Explain vector container briefly. **(10 Marks)**

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