Fourth Semester B.E. Degree Examination, December 2010
Object Oriented Programming with C++

Time: 3 hrs.   Max. Marks:100

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

PART – A

1 a. State the important features of object oriented programming. Compare the object oriented system, with procedure oriented system. **(08 Marks)**
   b. What is function overloading? Illustrate function overloading through add function which adds two integers, two float numbers. **(06 Marks)**
   c. Explain the working of inline functions, with an example. **(06 Marks)**

2 a. What is a friend class? Illustrate friends as bridges. **(10 Marks)**
   b. Explain: i) this operator   ii) arrow operator. **(05 Marks)**
   c. What are nested classes? **(05 Marks)**

3 a. What is a constructor? Explain different types of constructors. **(08 Marks)**
   b. Explain new and delete operators used in dynamic memory allocation. **(10 Marks)**
   c. What is a destructor? **(02 Marks)**

4 a. What is inheritance? Explain the different types of inheritance possible in C++. **(10 Marks)**
   b. Write a C++ program to create a class STUDENT with data members USN, name and age.Using inheritance, create class UGSTUDENT having fields semester, fees and stipend. Enter data for at least 5 students and compute the semesterwise average age for UG students. **(10 Marks)**

PART – B

5 a. What is a virtual function? Explain with a suitable example. **(10 Marks)**
   b. Write a short note on I/O stream classes, with hierarchy for C++ stream handling. **(05 Marks)**
   c. What is a pure virtual function? Explain with an example. **(05 Marks)**

6 a. Distinguish between text and binary files. **(05 Marks)**
   b. How are opening and closing of files handled in C++? **(05 Marks)**
   c. Illustrate the overloading of + + and – – operators. **(10 Marks)**

7 a. Write a program to add two complex numbers by overloading the + operator. Display the complex numbers by overloading << operator. **(10 Marks)**
   b. Illustrate the overloading of new and delete operators. **(10 Marks)**

8 a. What is exception handling? How are exceptions handled in C++? **(10 Marks)**
   b. Write short notes on :
      i) RTTI
      ii) Templates **(10 Marks)**

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