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BCS-031

BACHELOR OF COMPUTER APPLICATIONS (Revised)

06221

Term-End Examination

December, 2013

BCS-031 : PROGRAMMING IN C++

Time : 3 hours *Maximum Marks : 100*

(Weightage 75%)

Note : *Question number 1 is* ***compulsory*** *and carries* ***40*** *marks. Attempt* ***any three*** *questions from the rest.*

1. (a) Explain the basic characteristics of object oriented programming (OOP). Also explain any three advantages of OOP over procedural programming languages. 6

   (b) What is an operator ? List the various types of operators used in C++. 8

   (c) What is meant by object initialization ? What is its need ? Explain with the help of a suitable examples. 6

   (d) What are friend functions ? Explain two merits and two demerits of using friend functions, with the help of an example. 8

   (e) What is slope resolution operator ? Explain its use with the help of a C++ program. 6

   (f) What is virtual function ? Explain advantage of using virtual function in C++, with the help of an example. 6

2. (a) What is exception handling ? How is it performed in C++ ? Explain with the help of an example. **10**

(b) Write an object oriented program in C++ to read a set of integer numbers. Upto *n*, where *n* is defined by the user and print the contents of the array in the reverse order using a class template. **10**

3. (a) Write a program in C++ to find the largest of any three numbers using a member function defined in a class. **10**

(b) What is static member ? Explain use of static data member and static member function with the help of an example program in C++. **10**

4. (a) List the merits and demerits of single inheritance over multiple inheritance. **5**

(b) What is polymorphism ? Explain any three advantages of polymorphism. **5**

(c) What is container ? List main types of container in C++. Also list some common member functions of container classes. **10**

5. Write short note on the followings : **4x5=20**

(a) Abstract classes

(b) Input and output streams

(c) Operator overloading

(d) Class and objects