

ALCCS – (OLD SCHEME)

Code: CS23

Subject: OBJECT ORIENTED PROGRAMMING
USING C++

Time: 3 Hours

MARCH 2011

Max. Marks: 100

NOTE:

- Question 1 is compulsory and carries 28 marks. Answer any FOUR questions from the rest. Marks are indicated against each question.
- Parts of a question should be answered at the same place.

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- Q.1**
- List shortcomings of Procedure-Oriented languages.
 - Differentiate between object-based and object-oriented programming languages.
 - Show by a suitable example, how constructors are called in a multilevel inheritance.
 - Write a code snippet to show the use of new operator for Dynamic Memory allocation.
 - Draw the block diagram of stream class hierarchy in C++.
 - What are constructors? What is their utility?
 - Why do we require pure virtual function? Explain giving a suitable example. (7×4)
- Q.2**
- Distinguish between the following terms giving suitable example:
(i) Object and classes. (ii) Data abstraction and data encapsulation
(iii) Static and Dynamic binding (9)
 - Write a C++ code to overload the unary operator '-'. (9)
- Q.3**
- Explain the concept of function overloading with suitable example codes. (9)
 - What is function overriding? Explain with an example. (9)
- Q.4**
- Why are operators overloaded in C++? Explain. (6)
 - Write a C++ code to demonstrate the use of 'this' pointer. (6)
 - Explain the concept of parameterized constructors with suitable code snippet. (6)
- Q.5**
- What is multiple inheritance? Write a C++ code to demonstrate this concept. Sample code should have at least 2 parent classes and one derived class. (12)

- b. What is a friend function? Explain the need for using a friend function. Give a suitable example. (6)
- Q.6** a. Explain how run-time polymorphism is achieved in C++ giving a suitable code. (8)
- b. What is the difference between opening a file with a constructor function and opening a file with open() function? When is one preferred over the other? (4)
- c. Briefly explain the following error handling functions:
(i) eof()
(ii) fail()
(iii) bad() (6)
- Q.7** a. Write a C++ program that illustrates the application of multiple catch statements. (6)
- b. Distinguish between overloaded functions and function templates. (6)
- c. Write a function template for finding the minimum value contained in an array. (6)