

**ALCCS – OLD SCHEME**

Code: CS23

Subject: OBJECT ORIENTED PROGRAMMING

Time: 3 Hours

USING C++  
Max. Marks: 100**AUGUST 2011****NOTE:**

- Please write your Roll No. at the space provided on each page immediately after receiving the Question Paper.
- 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.

- Q.1**
- a. What are the shortcomings of procedure oriented programming? How does Object oriented programming overcome these?
  - b. What do you mean by dynamic binding and message passing among objects?
  - c. What is an array of object? Describe with the help of an example.
  - d. Write a C++ program to count number of object instantiated for a class.
  - e. What is the difference between function overloading and function overriding?
  - f. What do you mean by virtual class? When do we declare a class as virtual in C++?
  - g. Why do we use this pointer? Explain with the help of an example. (7×4)
- Q.2**
- a. Discuss the benefits and applications of OOP in detail. (9)
  - b. When should we use inline function and friend function? Explain each with an example. (9)
- Q.3**
- a. What is operator overloading? Write a C++ code to overload + operator to concatenate two strings. (9)
  - b. What is virtual function? Why do we need virtual function? Explain giving suitable example. (9)
- Q.4**
- a. What do you understand by constructors in C++? Explain default constructor, overloaded constructor and copy constructor. Give suitable examples. (9)
  - b. What are the advantages of dynamic memory allocation? Discuss its supporting operators “new” & “delete” in C++. Is there any methods in C++ to check if the allocation was successful? Explain. (9)

- Q.5** a. Discuss “array of pointers to strings” and “pointer to string” with the help of a suitable example for each. (9)
- b. Why do we use access specifiers in class? Explain each access specifier in context of inheritance. (9)
- Q.6** a. What represents the word “exception”? How are they handled in C++? Explain each block with proper example. (9)
- b. What is stream? Explain different stream classes supported by C++. (9)
- Q.7** a. How does a template function differ from Macros? (6)
- b. Write brief note on the following:
- (i) Abstract class.
  - (ii) Meta class.
  - (iii) Persistence.
  - (iv) Template class. (3×4)